03 MEASUREMENT

Rapid Assessment for Total IT Expenditure
Miami Dade Transit
Management Presentation

October 17, 2003

research consulting **measurement** community news

Gartner

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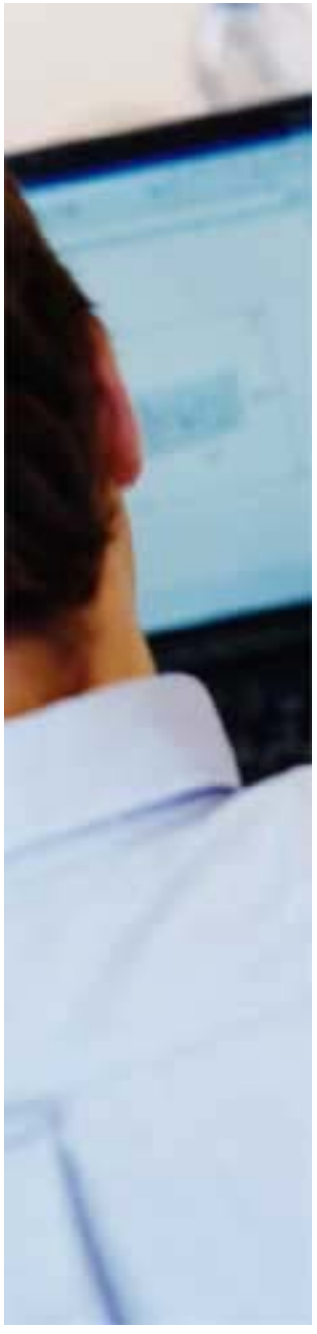
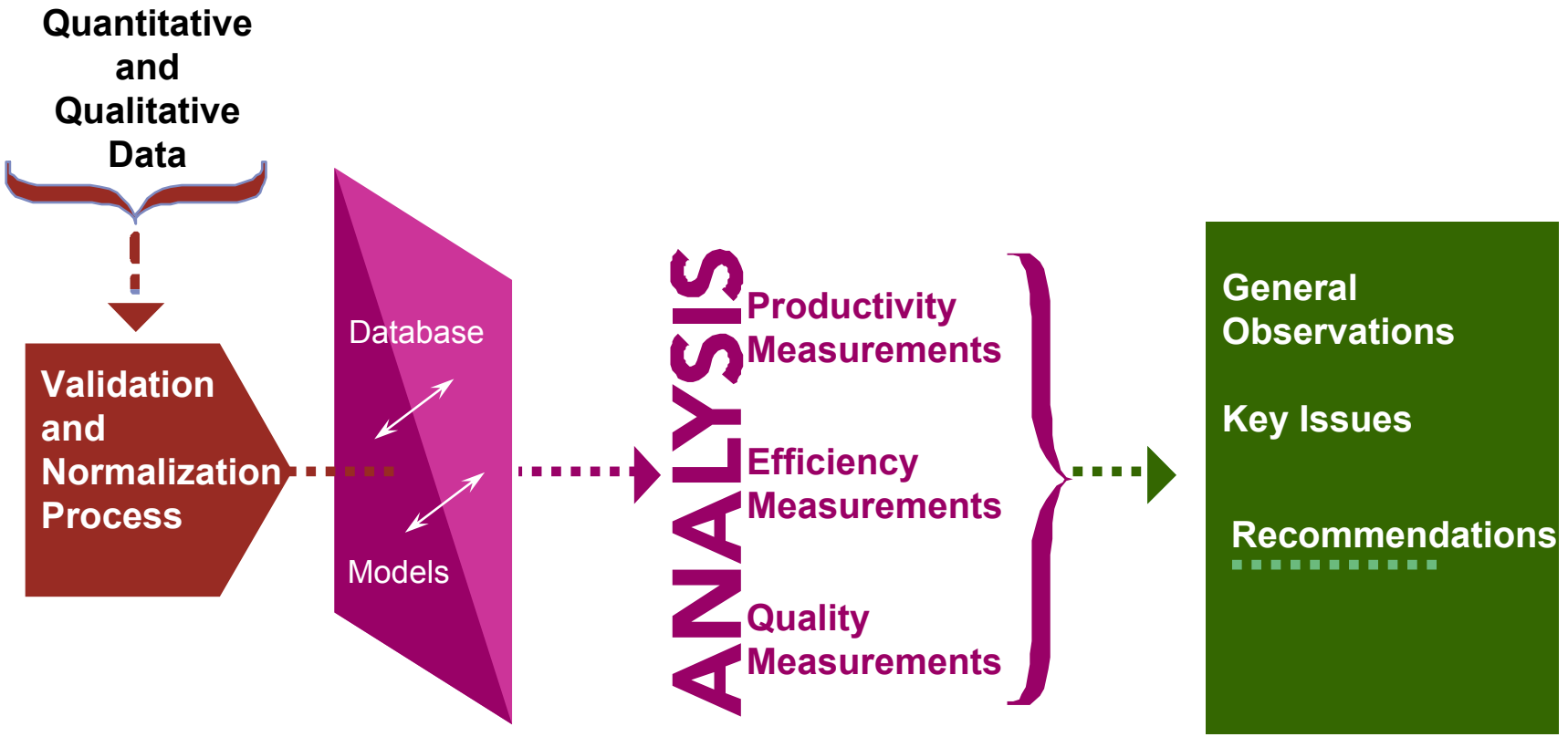


Analysis Methodology

Methodology



Data Collection

Comparative Analysis

Insights Unique to Your Business

About the Total IT Expenditure Assessment

The Rapid Assessment for Total IT Expenditure provides a health check for Miami Dade Transit's IT environment. This is a high-level look at the current environment and covers a 12 month time period. A number of functional areas have been evaluated.

For each functional area selected in this analysis, a composite peer group is formed for comparison purposes. The enterprises selected have key workload characteristics similar to those of Miami Dade Transit. Each functional area has a different selected peer group.

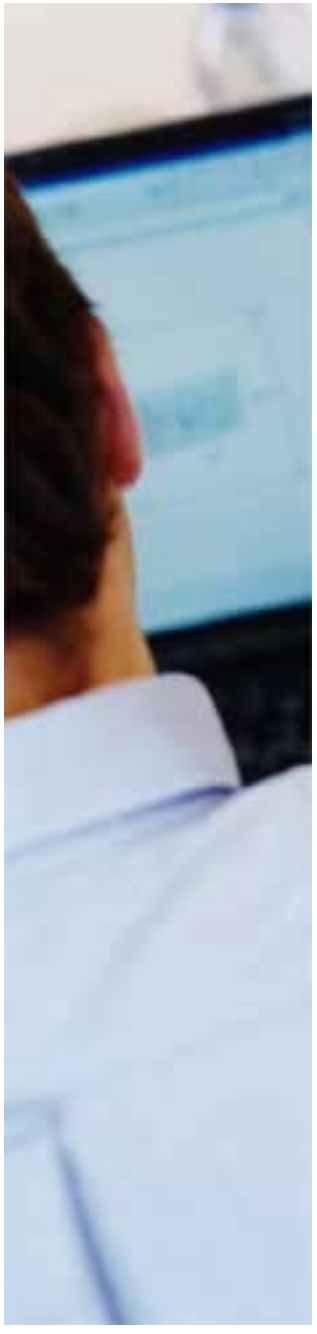
The selection of the different peer groups enables Gartner Measurement to compare Miami Dade Transit with other enterprises based on key metrics. These key metrics are used to provide an indication of the cost-efficiency of the Miami Dade Transit organization.

About the Total IT Expenditure Assessment

IS Functional Area	Metric
IT Help Desk	Cost per Call
Distributed Computing	Cost per User
Midrange Computing	Cost per System
Wide-Area Data Network	Cost per Device
Voice Technology	Cost per Extension
Voice Network	Cost per Minute
Applications Development	Cost per Function Point Developed
Applications Support	Cost per Function Point Supported

About the Total IT Expenditure Assessment

The metrics listed for the areas selected for inclusion by Miami Dade Transit represent a portion of the aggregated metrics for each key IT functional area that we believe will provide the "health check" information that CIOs and senior IT managers require, at a minimum, to develop an IT baseline for those functional areas. These metrics set the stage for a consistent methodology enabling the accurate identification of costs and workload attributes as well as an internal and external comparative analysis to determine how well each of the selected functional areas is performing.



Objectives and Scope

Objectives of the Analysis

- To establish a baseline for IT expenditures and cost-efficiency
- To provide a comparative analysis of expenditures against other enterprises with similar workloads, complexity and performance characteristics
- To provide a “health check” of the IT services delivered to the Business
- To identify potential opportunities for increased IT efficiency
- To offer recommendations to increase IT efficiency and effectiveness
- To create a foundation for a continuous measurement program

Scope

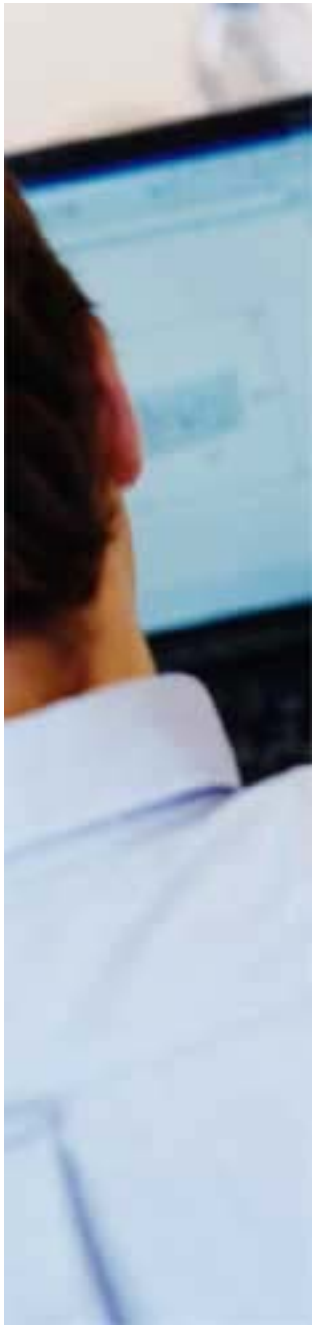
- **Functional Areas Studied**
  - IT Help Desk
  - Midrange Computing
  - Distributed Computing
  - Wide-Area Data Network
  - Voice Technology
  - Applications Development
  - Applications Support

- **Benchmark analysis covers the fiscal year 2002.**
- **$5,471,680 of Miami Dade Transit's expenditures have been included in the consensus model.**
- **Occupancy costs for the peer group were removed in each of the technology areas as Miami-Dade Transit does not pay for space in the buildings they occupy.**
- **Real Time Systems and the support of those systems were excluded from the scope of this engagement.**

Scope

- **Peer groups**
  - Chosen on basis of comparable workload that maps to Miami Dade Transit's scope of support, defined differently for each service being benchmarked

- **Each peer group chosen based on its workload profile:**
  - IT Help Desk
    - Number of inbound calls, including abandoned, and the overall complexity of the environment as defined by the type of calls taken
  - Midrange Computing
    - Type of platform, number of systems and the complexity of the environment as defined by the rate of change and application load
  - Distributed Computing
    - Number of end users supported, number of devices in the LAN environment and complexity of the environment
  - Wide-Area Network
    - Type of environment and the number of sites, devices and traffic/GB/month that are supported on the backbone
  - Voice Network and Premise
    - Type of environment, number of inbound and outbound long distance minutes, sites and type of network supported
    - Number of extensions, sites and changes (MACs) per month
  - Applications Development & Support
    - Number of function points developed and supported



Executive Summary

Cost-Efficiency Observations

Alignment Observations

Key Issues

Recommendations

Total Cost by Technical Area

Observations

- **The aggregate IT consensus model costs for Miami Dade Transit for those modules included in the analysis at $5,471,680 vs. $6,765,994 are $1,294,314 (or 19.1%) lower than what the composite peer group would spend to perform Miami Dade Transit's workload.**

- **For the services measured, at the summary level, Miami Dade Transit outperforms the efficiency of the selected composite peer groups in the following areas:**

	$ Difference	% Difference
Midrange - VMS	($ 23,554)	-10.3%
Midrange - UNIX	($ 14,780)	- 8.7%
Midrange - NT	($ 71,674)	-17.2%
IT Help Desk	($129,419)	-34.3%
Distributed Computing	($522,388)	-22.1%
Voice Technology	($451,529)	-33.2%
Applications Development	($ 323)	- 0.1%
Applications Support	($247,980)	-38.5%

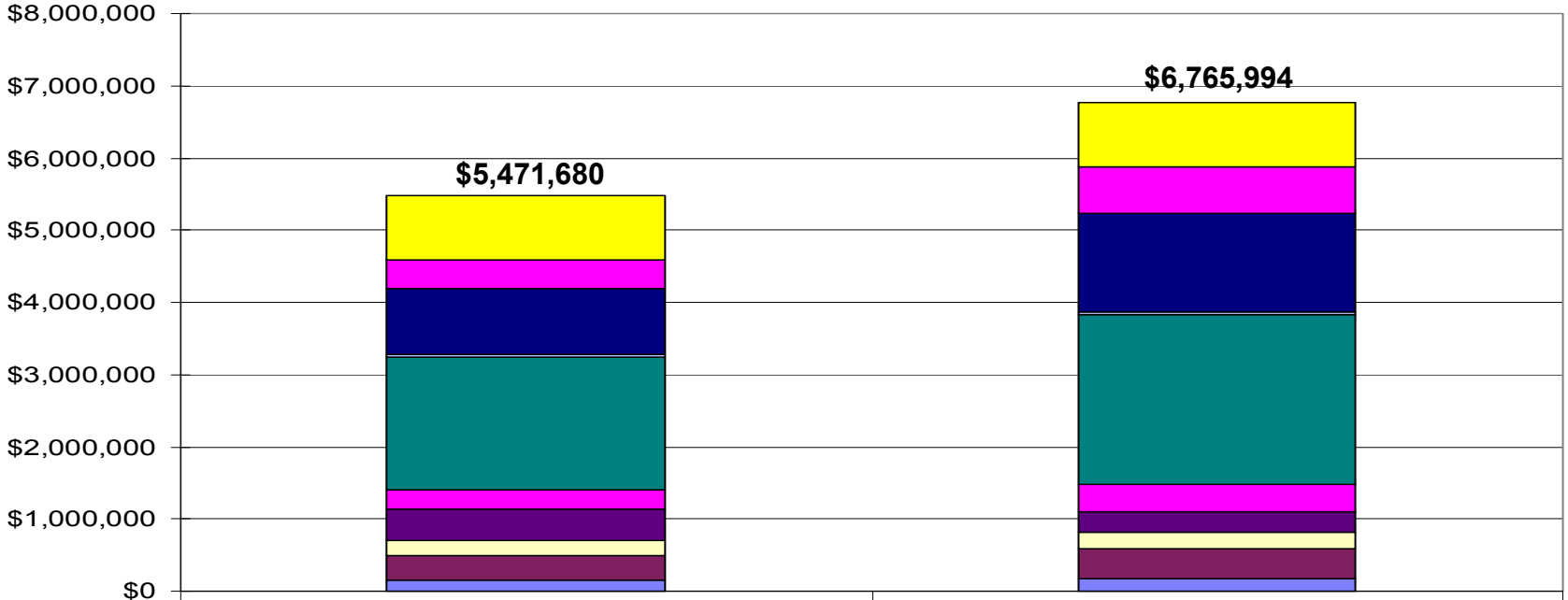
Total Cost by Technical Area

Observations

- **Miami Dade Transit has costs that are higher than the selected composite peer groups in the following areas:**

	$ Difference	% Difference
Voice Network (Long Distance)	$ 6,427	15.7%
❑ Wide Area Data Network	$160,895	57.2%

Total Cost by Technical Area



	MDT	PEER
Applications Development	$887,201	$887,524
Applications Support	$395,897	$643,878
Voice Technology	$908,130	$1,359,659
Voice Network	$47,390	$40,963
Distributed Computing	$1,839,131	$2,361,519
IT Help Desk	$247,473	$376,892
Wide Area Data	$442,216	$281,321
VMS	$204,245	$227,789
NT	$344,238	$415,912
UNIX	$155,758	$170,538

The peer group would spend $6,765,994 to support Miami Dade Transit's workload.

Total Cost by IS Cost Category

Observations

- **Miami Dade Transit is spending *less* than the comparison peer groups in the following areas:**

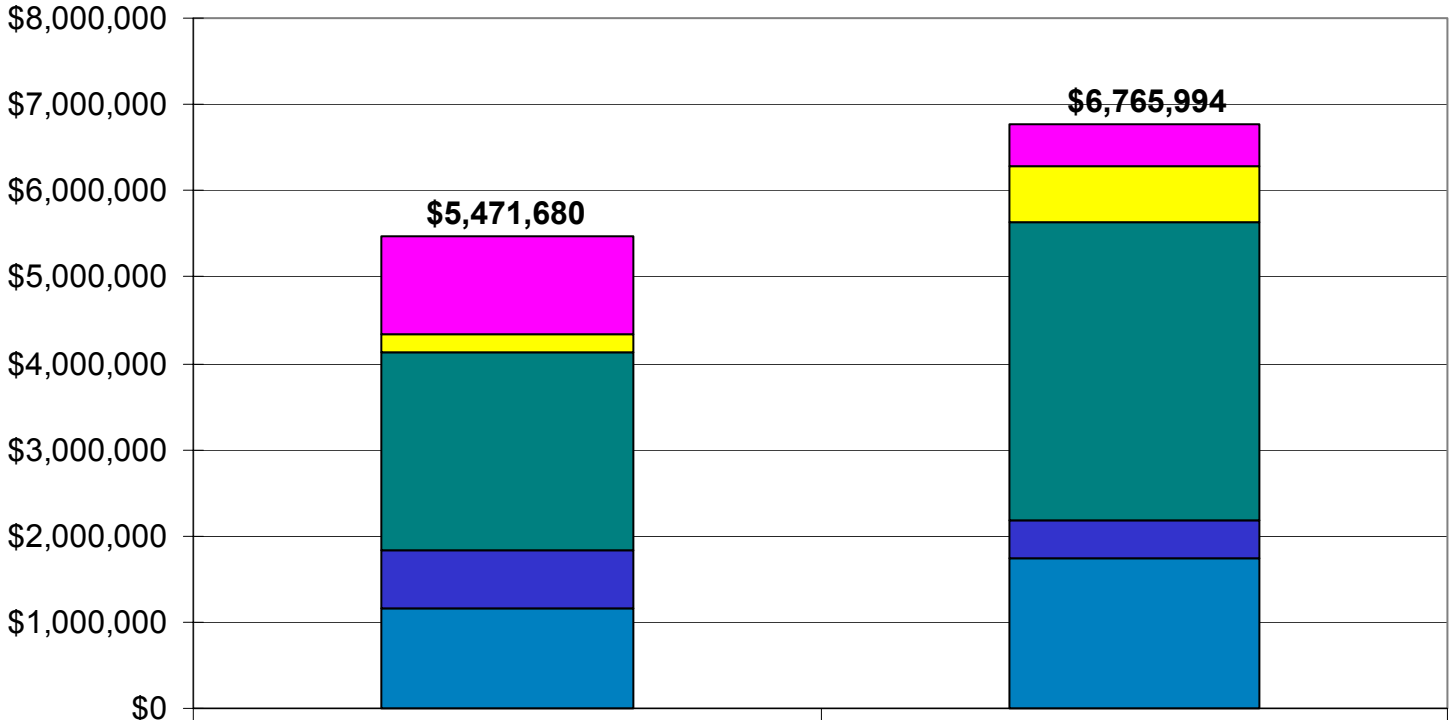
	$ Difference	% Difference
Personnel	($1,160,904)	- 33.6%
Hardware	($ 580,802)	- 33.6%
Transmission	($ 444,155)	- 68.6%
Disaster recovery	($ 14,054)	-100.0%

- **Miami Dade Transit is spending *more* than the comparison peer groups in the following areas:**

	$ Difference	% Difference
Outsourcer	$665,168	140.5%
Software	$240,433	54.4%

Note: While the Miami Dade Transit spend is 140.5% greater than the peer group in Outsourcing, it is more than offset by the spending deficit in Personnel, Transmission, and Hardware.

Total Cost by IS Component



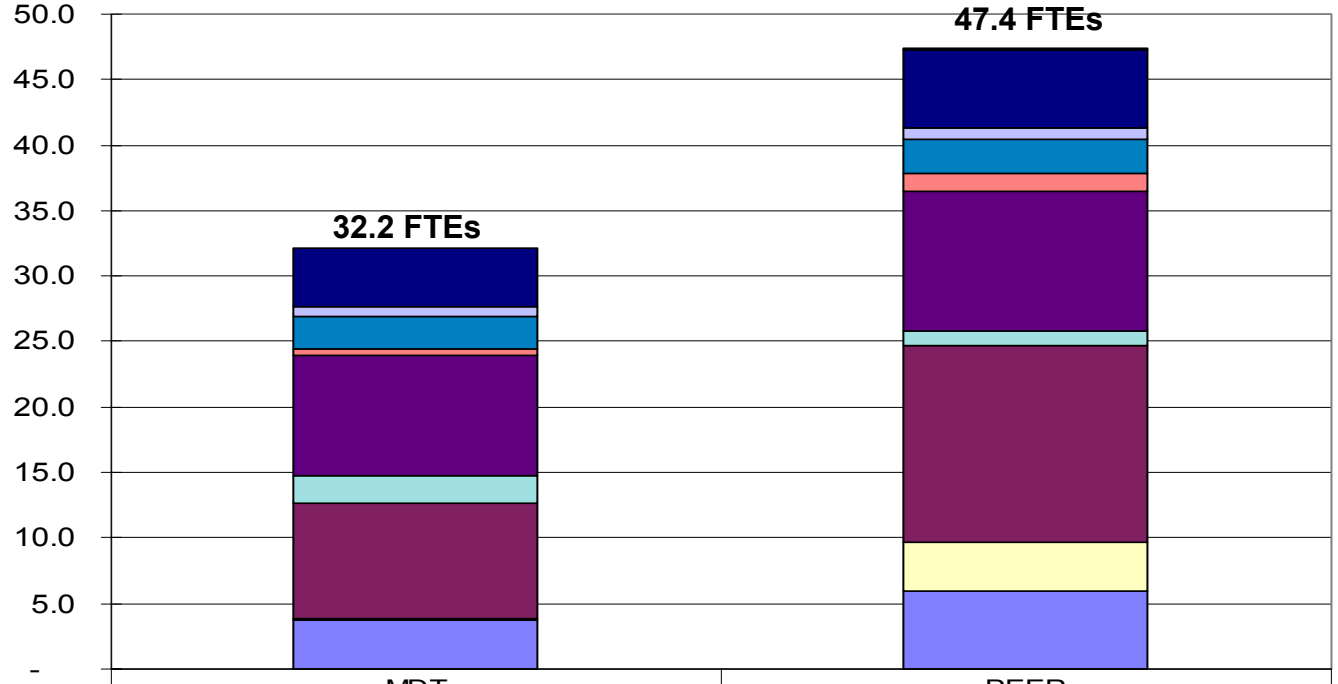
	MDT	PEER
Outsourcer	$1,138,588	$473,420
Disaster Recovery	$0	$14,054
Transmission	$203,742	$647,897
Personnel	$2,297,143	$3,458,047
Software	$682,464	$442,031
Hardware	$1,149,743	$1,730,545

Total Full-Time Equivalents by Area

Observations

- **The total number of full-time equivalent (FTE) personnel within the IT areas measured for Miami Dade Transit is significantly lower than the peer group FTE staff that would be required to support Miami Dade Transit's workload; however, Miami Dade Transit has outsourced some of the work in specific technical areas. Miami Dade Transit utilizes 32.2 FTEs compared to the peer group at 47.4 FTEs.**

Total Full-Time Equivalents by Area



	MDT	PEER
Voice Network	-	0.1
Applications Support	4.5	6.0
VMS	0.7	0.9
NT	2.5	2.5
UNIX	0.4	1.4
Applications Development	9.3	10.7
Wide Area Data	2.1	1.2
Distributed Computing	8.8	14.9
Voice Technology	0.1	3.7
IT Help Desk	3.7	6.0

Observations

- IT Help Desk
  - Costs are 34.3% lower than the peer group. A dedicated staff enables this service to be provided at a minimal cost to the organization.
  - The Help Desk supports the user environment with 3.7 FTEs compared to the peer group with 6.0 FTEs that would be required to support Miami Dade Transit's workload of 16,273 annual completed contacts.
- Distributed Computing
  - Costs are 22.1% lower than the peer group. Miami Dade Transit spends 44.1% less on personnel than the peer group, supporting the environment with 8.8 FTEs compared to 14.9 FTEs.
  - In addition to supporting the Distributed Computing environment with fewer FTEs at a lower cost per FTE, Miami Dade Transit also spends $457K less in Outsourcing than the peer group - some of the Outsourcer costs translates into personnel.

Observations

- Midrange Computing - Unix
  - Costs are lower than the peer group. Personnel costs are significantly lower than the peer group.
  - The asset management systems for software and hardware are manual.
- Midrange Computing - NT
  - Costs are lower than the peer group, primarily in the Personnel and Outsourcer areas. This is the fastest growing and largest platform.
  - The asset management systems for software and hardware are manual.
- Midrange Computing - VMS
  - Costs are lower than the peer group, primarily in the Personnel and Outsourcer areas. This is the fastest growing and largest platform.
  - The asset management systems for software and hardware are manual.

Observations

- Voice Network and Voice Technology
  - These services are provided by IDT. The Voice Network cots are slightly higher than the peer group, but in Voice Technology (PBX), the costs are significantly lower than the peer group. Miami Dade Transit provides minimal support in these areas.
- Wide Area Data Network
  - Costs are higher than the peer group. Transmission, Hardware, and Personnel costs are higher than the peer group, while Outsourcer costs are lower.
- Applications Development
  - Costs are similar to the peer group, and Miami Dade Transit relies on packages and contractors to supply many of the services in this area.
- Applications Support
  - Support costs for the applications portfolio are significantly lower than the peer group. Fewer Personnel is the key driver to this efficiency.

Key Issues

- Miami Dade Transit is doing an excellent job of managing IT spending in the study areas. The environment is very low cost compared to the peer group; especially in the areas of personnel, hardware, and transmission. Demand for IT services is high within Miami Dade Transit and is increasing.
- Staffing levels are significantly lower than the peer group. Experienced and dedicated personnel along with effective practices such as standardization allow Miami Dade Transit to operate at current staffing levels.
- However, the support levels are at what Gartner would consider to be high-risk points. Several comments from the department managers referenced lean staffing resources as a significant concern in terms of achieving objectives. ITS is also at risk of losing key staff from burnout.

Key Issues

- In addition to more staffing resources, the “wish list” from the departments includes improvements in planning (shorter cycles and more flexibility), improved time to market, and ability to do more projects.
- The IT environment is now likely at "the point of diminishing returns" and is at a point where further reductions will result in degradation of service, or increased workload will result in higher costs or degradation of service.
- However, it is expected that Miami Dade Transit will be pushed to provide more service with existing or even reduced spending levels. This will necessitate a focus on innovation, service delivery and allocation of IT resources to meet the department goals. This demands superior communication among ITS management, ITS staff, and the departments.

Recommendations

- **As indicated earlier, the study results do not show any opportunities for significant cost reduction. However, it is likely that cost reduction and/or containment strategies will be demanded of ITS. Because of the significant variance from the peer group, Gartner encourages Miami Dade Transit to approach any further cost reductions cautiously.**
  - ITS must be very careful when competing for resources that the need for ongoing investment in IT is well understood by the administration. Even after the initial investment, environments still have to be supported, upgrades have to occur, and attention paid to changing requirements from constituents.
  - Therefore, it is recommended that IS understand all costs and their relationship to services delivered. This is to ensure that ITS management is armed for budget battle and can show the direct impact of contained spending levels on service. This is to help determine where it would be appropriate to reduce spending versus (e.g. “nice to have” features) what is necessary to maintain service levels and fulfill Miami Dade Transit objectives. The IT environment is too lean to risk indiscriminate cost reduction and it is crucial that the administration understands the value received from the IT services.

Recommendations

- **The management survey results overall indicate a good working relationship among IS and the departments. An area of improvement where the departments indicated less satisfaction was ITS' ability to deliver new products and services in a timely manner.**
  - It is suggested that ITS work with the Transit administration to see what can be done to reform these processes and to explore alternative funding models or add personnel to deliver in a timely fashion. More flexibility is needed to respond to changing requirements than the current planning, funding, and staffing process allow. This is crucial since IT services impact efficiency of Transit processes and services to citizens.

Recommendations

- **As indicated throughout the observations, staffing resources are highly leveraged at Miami Dade Transit. ITS is delivering the current workload with far fewer people than the composite peer group. While the department managers praised many aspects of ITS service, time to market and lack of resources were definite concerns. This may also impact the IS organization's ability to work within the framework of anticipated strategic efforts.**
  - Utilize the results of this report to communicate workload and staffing issues to Miami Dade Transit stakeholders. ITS must ensure that the administration understands that just because ITS has managed to meet and often exceed expectations with existing resources that this does not mean that this is indefinitely sustainable.
  - With the lean staffing levels, expectations with regard to support and the integration of new technology in the environment may outpace the ITS organization's ability to keep up with this demand. This may result in a drop in customer satisfaction. Ensure that the administration understands this and is aware of the risks involved with the lean staffing levels.

Recommendations

- **In addition to customer satisfaction, also of concern is Miami Dade Transit IS' greatest asset, its workforce. The staffing resources are leveraged to the point at which turnover risk is significant. At some point, the demands placed upon the staff are too high, and they will look elsewhere. Despite an uncertain economy, demand for IT professionals remains strong.**
  - It is recommended that IS monitor staff issues in order to maintain morale and staff perceptions to maintain a knowledgeable, contented and motivated IT staff. Suggested ways to focus on improving morale and communications:
    - Meet with staff to determine key issues (perceived or real).
    - Form a team to review issues and make recommendations, include staff representatives.
    - Develop and implement a plan to address issues.
    - Report actions and results to the staff.
    - Regularly seek staff ideas to improve processes and conditions.
    - Survey staff perceptions at least annually in order to chart and communicate progress on key issues.
    - Hedge turnover risk by documenting processes for knowledge transfer and cross training other staff. Rewarding employees for participation will encourage compliance.

Recommendations

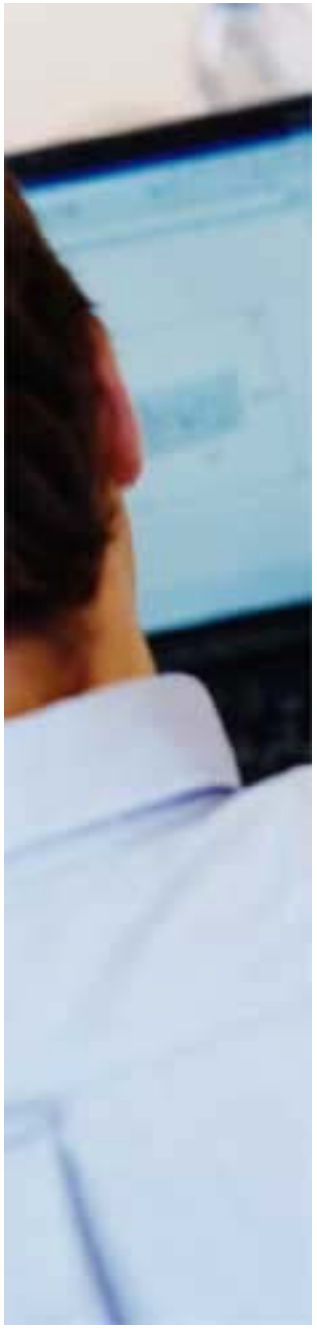
- **The Midrange environment is also very lean and will be stretched even further with the additional application load. It is suggested that Miami Dade Transit add staff and evaluate tools investment in this area.**
  - Gartner studies indicate a correlation between staffing size and server availability. Increases in workload, complexity and service levels without an increase in staff have been matched with decreases in availability as reported in Gartner Measurement benchmarks. Staffing levels in many cases are too lean to maintain availability of mission critical business applications. This situation is exacerbated by the lack of availability of qualified technical resources in the market.
  - Getting the staff adequate training is also crucial to manage these complex environments. Support tools to automate functions are improving in the mid-range environment and it is suggested that ITS investigate these offerings.

Recommendations

- The Distributed Computing environment is yet another lean area. It is recommended that ITS add staff in this area due to its direct impact on end users. In addition, when upgrades are planned, a suggestion is to recruit “user champions” from the departments to augment support staff. This staff, reporting to ITS, can assist with first line support issues, (e.g. common department specific application and personal productivity issues).
- It is also suggested that Miami Dade Transit continue to refine the IT Help Desk services. This is an area that requires ongoing enhancements and staff training to fully realize the benefits of prior investments and to maintain end user satisfaction.

Recommendations

- **Review and/or create disaster recovery and business continuity plans to ensure sufficient levels of protection are in place**
  - Verify that sufficient off-site storage is being utilized
  - Verify that fail-over servers have been identified or that outsourced services have been secured
  - Implement and test the disaster recovery plan to ensure it can be executed with minimal business disruption

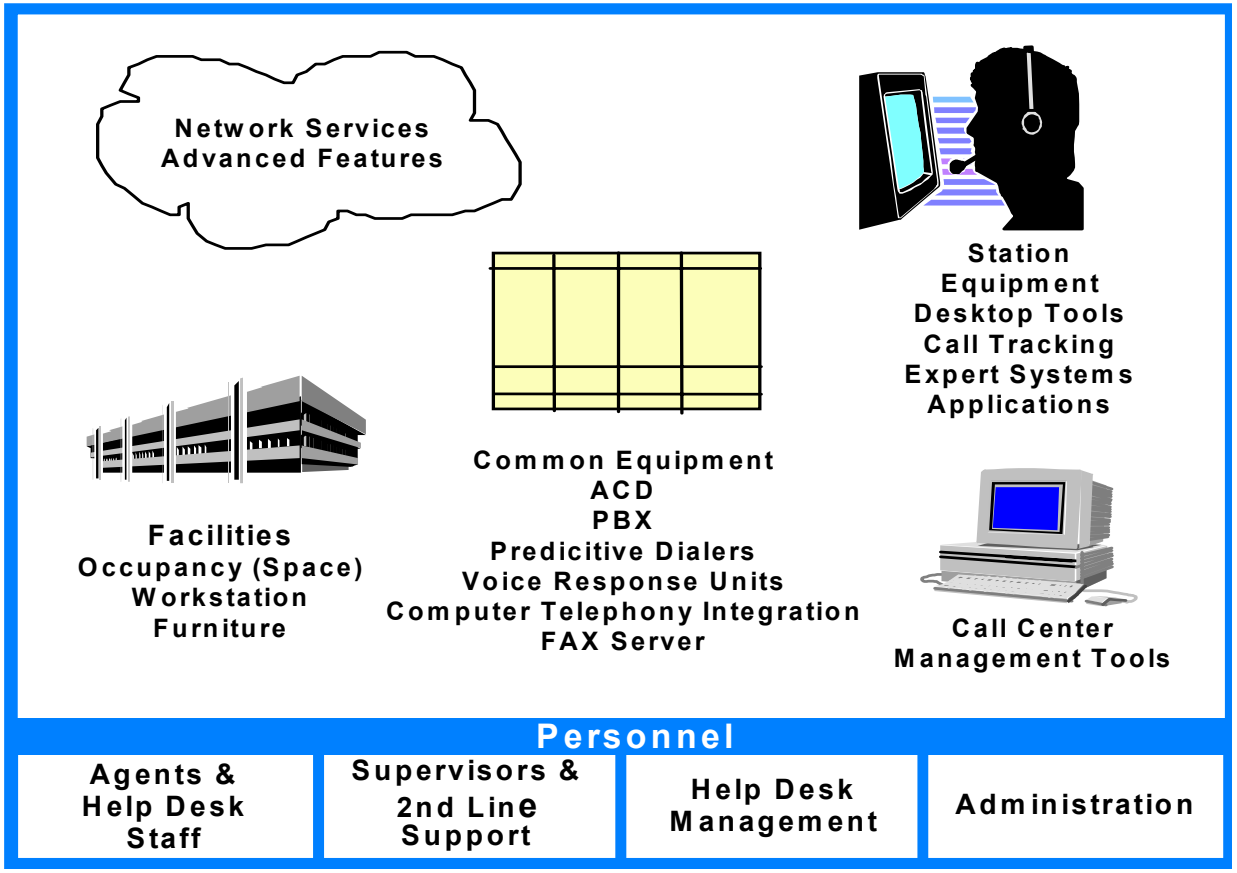


Analysis by Area

Analysis by Evaluation Area

- IT Help Desk
- Midrange Computing - UNIX
- Midrange Computing - NT
- Distributed Computing
- Wide-Area Data Network
- Long Distance Voice Network
- Voice Technology
- Applications Development
- Applications Support

IT Help Desk



IT help desk encompasses the services of a contact center to support an end-user computing environment. Systems to support help desk agents such as problem management systems as well as the telephone systems used are included. First-line agents and second-line support are both included within the scope of the analysis.

IT Help Desk

Scope of IT Help Desk

- 16,273 total calls per year
- Call complexity = 5.6
- Total FTEs = 3.7
- Spending = $247,473

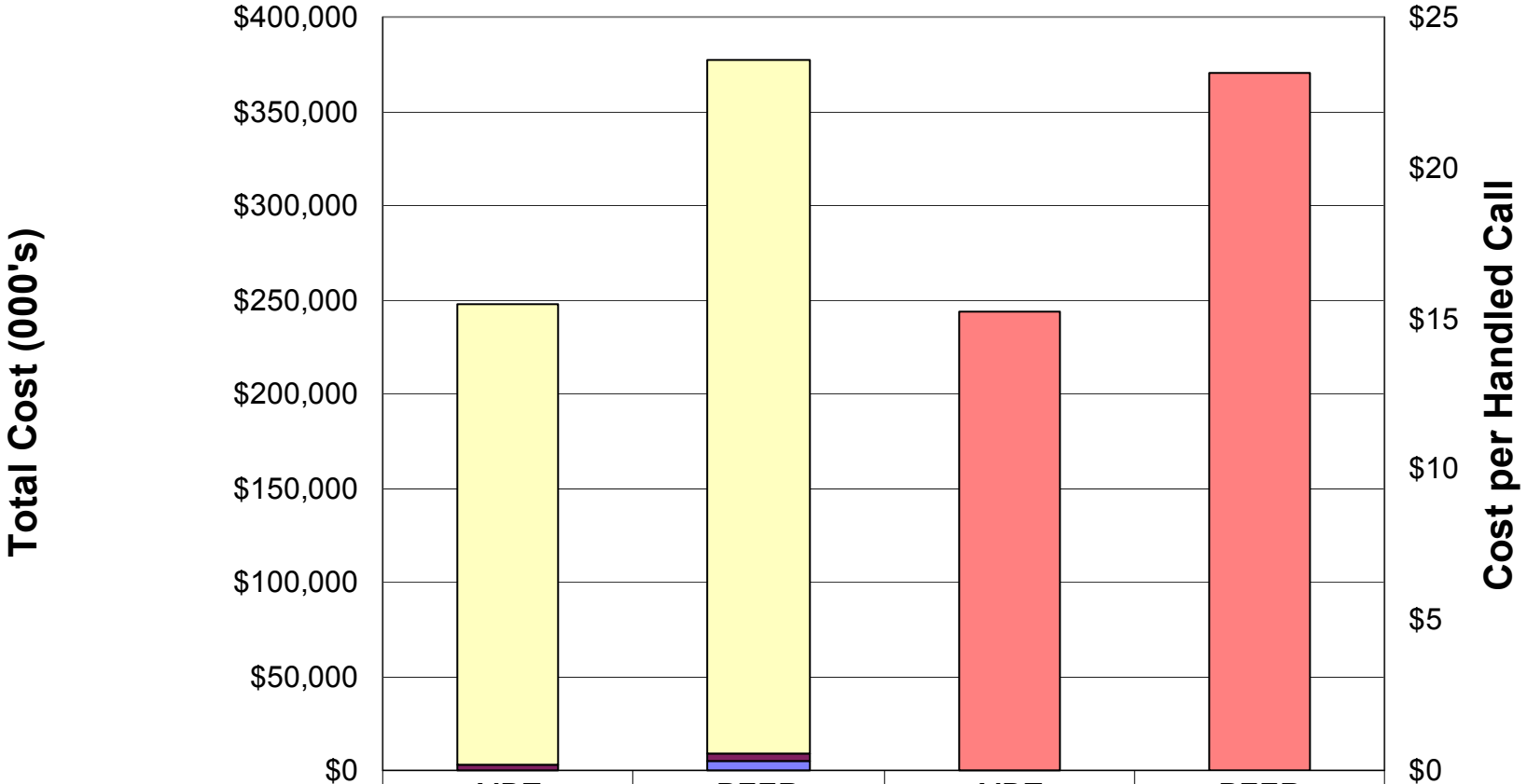
Peer Profile

- 7 enterprises with a similar call volume and complexity
- Call volume = 16,376
- Call complexity = 5.7
- Peer group includes 1 utilities, 1 manufacturing, 3 public administration, 2 chemical

Observations

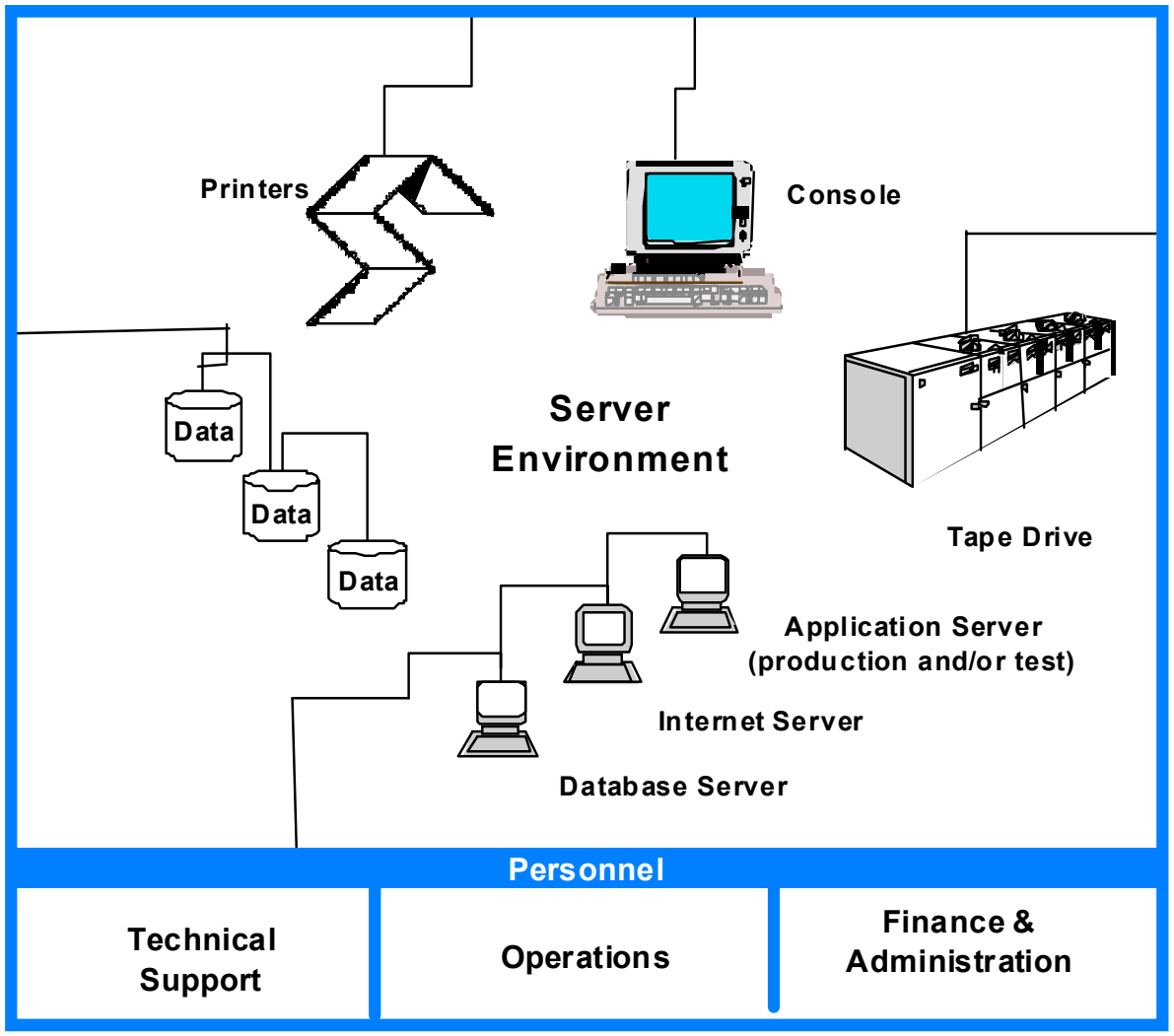
- Cost per call of $15.21 is 34.3% lower than the peer group
- MDT has 3.7 FTEs compared to the peer group's 6.0 FTEs
- The peer group average was used for MDT for Network

IT Help Desk



	MDT	PEER	MDT	PEER
Personnel	$244,473	$367,672		
Network	$3,000	$4,268		
Equipment		$4,952		
Cost per Handled Call			$15.21	$23.16

Midrange Computing



Midrange computing includes servers running end-user applications. Servers as well as any associated peripherals are included within the scope of the analysis. Software is limited to the operating system as well as tools and utilities. Labor support includes traditional systems administration and systems management functions.

End-user applications software and support are excluded.

Midrange Computing — UNIX Platform

Scope of Midrange Computing - UNIX Platform

- 5 servers
- Platform = UNIX
- Total FTEs = 0.4
- Spending = $155,758

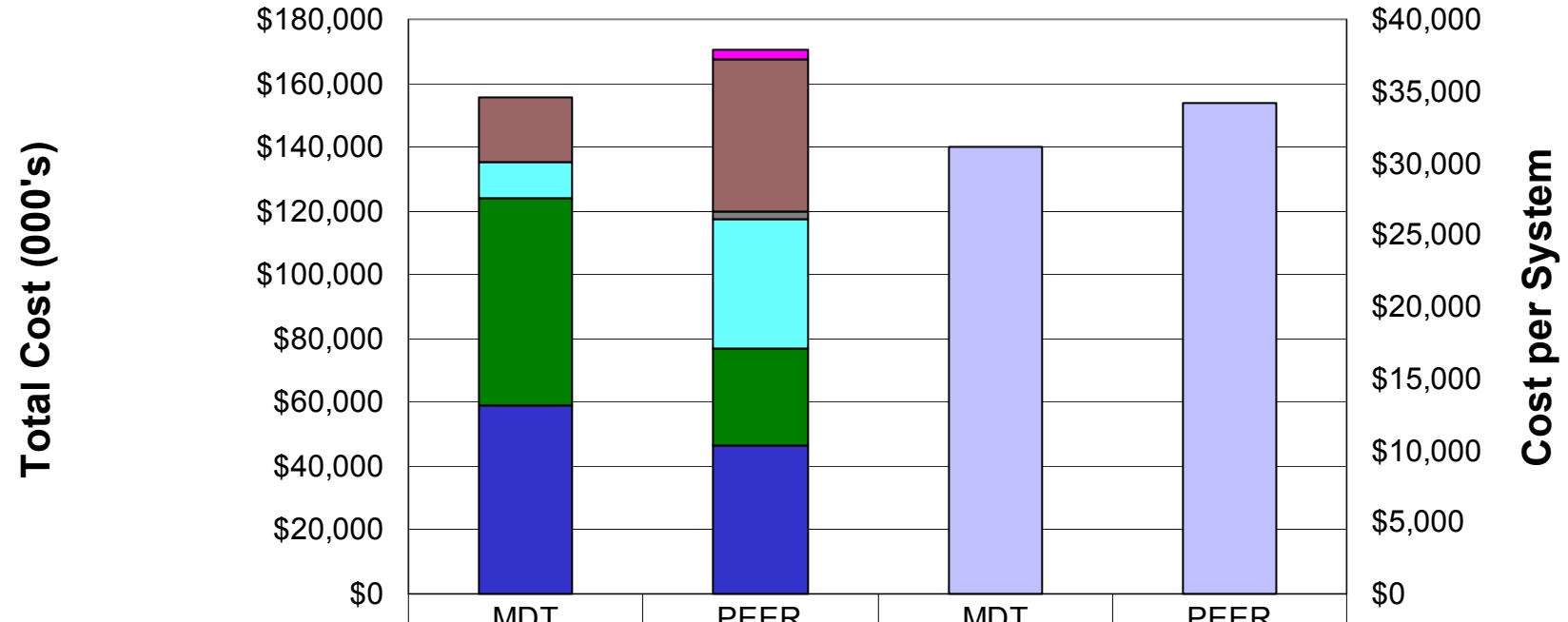
Peer Profile

- 9 enterprises with same platform and similar power rating
- 5.7 servers
- Peer group includes 2 public administration, 1 consumer products, 1 utilities, 1 manufacturing, 4 healthcare

Observations

- Cost per system at $31,152 for Miami Dade Transit is 8.7% lower than the peer group
- Miami Dade Transit utilizes 0.4 FTEs to support the UNIX environment compared to 1.4 FTEs for the peer group
- Miami Dade Transit's Operations and Technical Support personnel costs are lower than the peer group

Midrange Computing — UNIX Platform



	MDT	PEER	MDT	PEER
Outsourcer		$3,250		
Personnel - Tech. Services	$20,658	$47,767		
Disaster Recovery		$2,199		
Personnel - Operations	$11,371	$40,477		
Software	$65,000	$30,334		
Hardware	$58,729	$46,511		
Cost per System			$31,152	$34,108

Midrange Computing — NT Platform

Scope of Midrange Computing - NT Platform

- 47 servers
- Platform = NT
- Total FTEs = 2.5
- Spending = $344,238

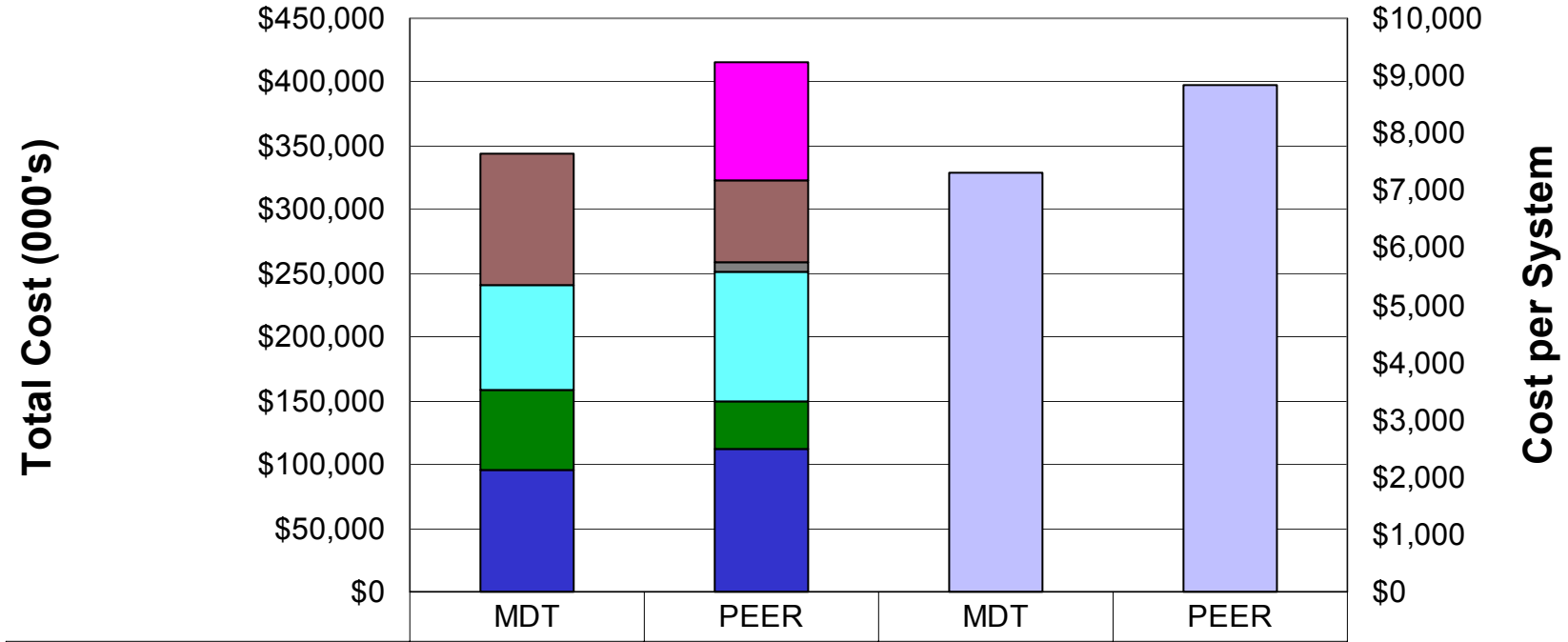
Peer Profile

- 11 enterprises with same platform and similar power rating
- 42.5 servers
- Peer group includes 4 public administration, 2 consumer goods, 1 manufacturing, 2 utilities, 1 healthcare, 1 banking

Observations

- Cost per system at $7,324 for Miami Dade Transit is 17.2% lower than the peer group at $8,849
- Miami Dade Transit utilizes 2.5 FTEs to support the NT environment compared to 2.5 FTEs for the peer group; however, the peer group spends $92,564 on Outsourcer, which could translate into additional staff to support the NT platform
- Cost per Miami Dade Transit FTE is $74,159 versus $66,543 for the peer group
- Hardware costs are significantly lower than the peer group, but software costs are higher - the combination of these two cost categories is similar to the peer group

Midrange Computing — NT Platform



	MDT	PEER	MDT	PEER
Outsourcer		$92,564		
Personnel - Tech. Services	$103,289	$64,596		
Disaster Recovery		$7,192		
Personnel - Operations	$82,849	$101,761		
Software	$62,400	$36,969		
Hardware	$95,700	$112,829		
Cost per System			$7,324	$8,849

Midrange Computing — VMS Platform

Scope of Midrange Computing - VMS Platform

- 5 servers
- Platform = VMS
- Total FTEs = 0.7
- Spending = $204,245

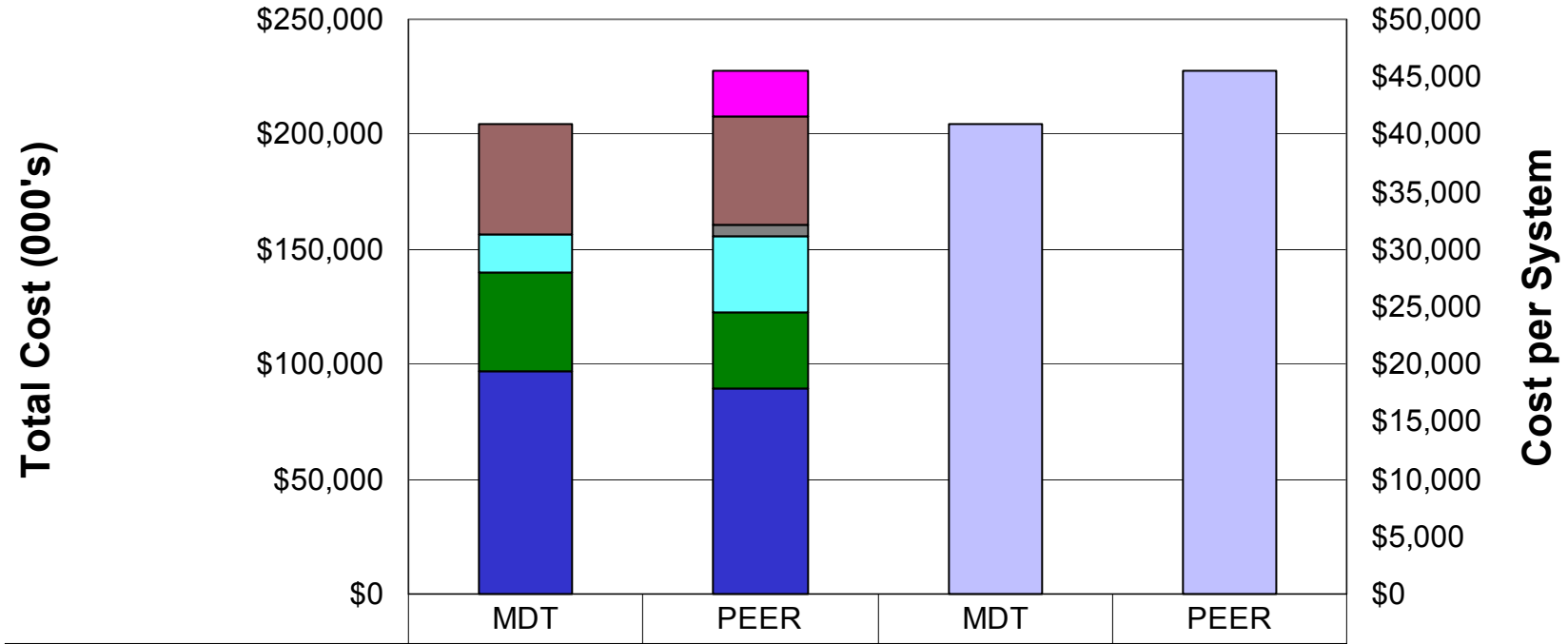
Peer Profile

- 7 enterprises with same platform and similar power rating
- 5.9 servers
- Peer group includes 2 public administration, 1 transportation, 1 manufacturing, 2 healthcare, 1 petroleum/gas

Observations

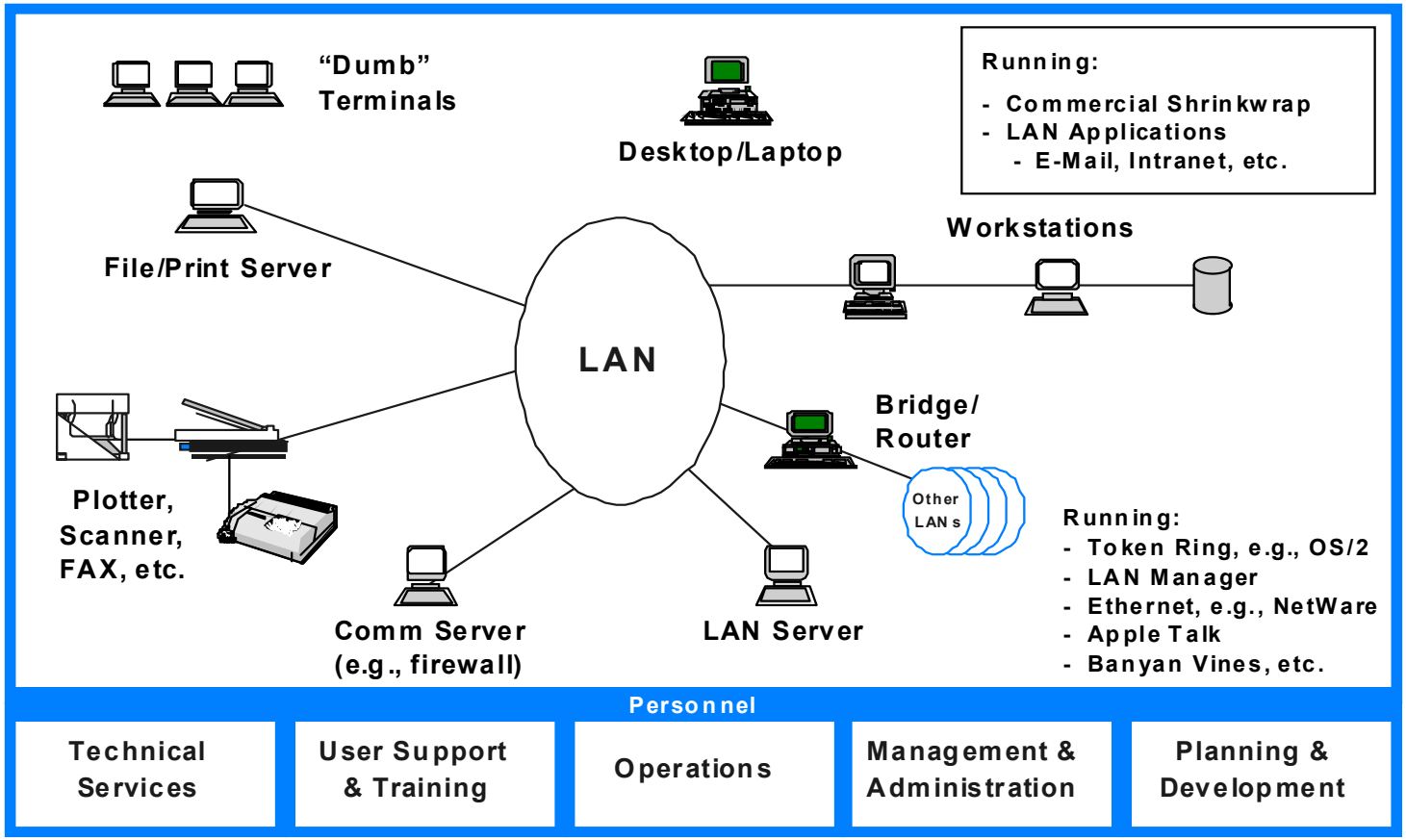
- Cost per system at $40,849 for Miami Dade Transit is 10.3% lower than the peer group at $45,558
- Miami Dade Transit utilizes 0.7 FTEs to support the VMS environment compared to 0.9 FTEs for the peer group
- Miami Dade Transit's hardware is greater than 5 years old for the VMS platform

Midrange Computing — VMS Platform



	MDT	PEER	MDT	PEER
Outsourcer		$19,689		
Personnel - Tech. Services	$47,672	$47,716		
Disaster Recovery		$4,663		
Personnel - Operations	$17,057	$33,044		
Software	$43,000	$33,625		
Hardware	$96,516	$89,051		
Cost per System			$40,849	$45,558

Distributed Computing



Distributed computing spans the desktop, local-area network and infrastructure servers.

Labor to manage and support PCs, laptops and other terminals as well as the LAN and infrastructure servers (print, file and e-mail), is included.

Help desk support for these services also is included.

Distributed Computing

Scope of Distributed Computing

- 19 sites
  - **Coral Way (2 buildings)**
  - **Central (6 buildings)**
  - **North East (2 buildings)**
  - **Lehman (4 buildings)**
  - **SPCC (3 buildings)**
  - **CPS (1 location)**
  - **ATS (1 location)**
- 1,000 users
- Total FTEs = 8.8
- Spending = $1.84M

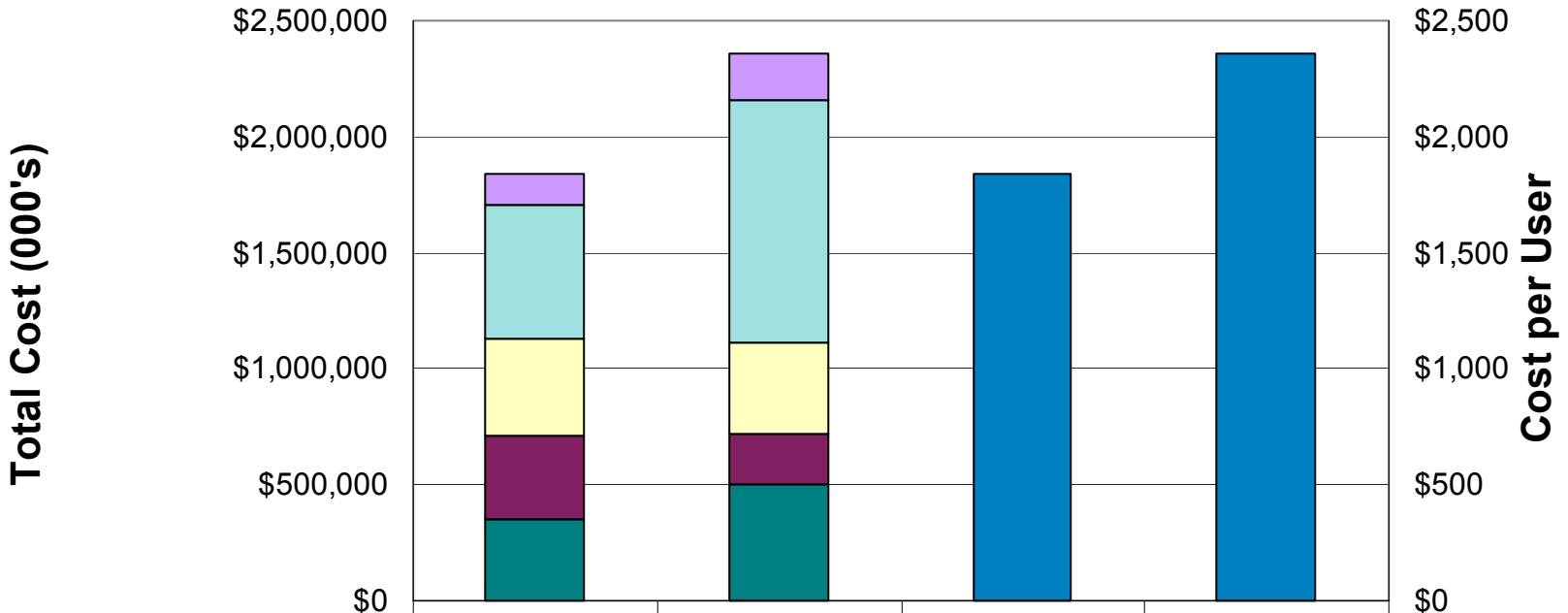
Peer Profile

- 11 enterprises with similar complexity and end-user population
- 866 users
- Peer group includes Includes 2 utilities, 1 manufacturing, 1 consumer goods, 1 financial services, 4 public administration, 2 chemical

Observations

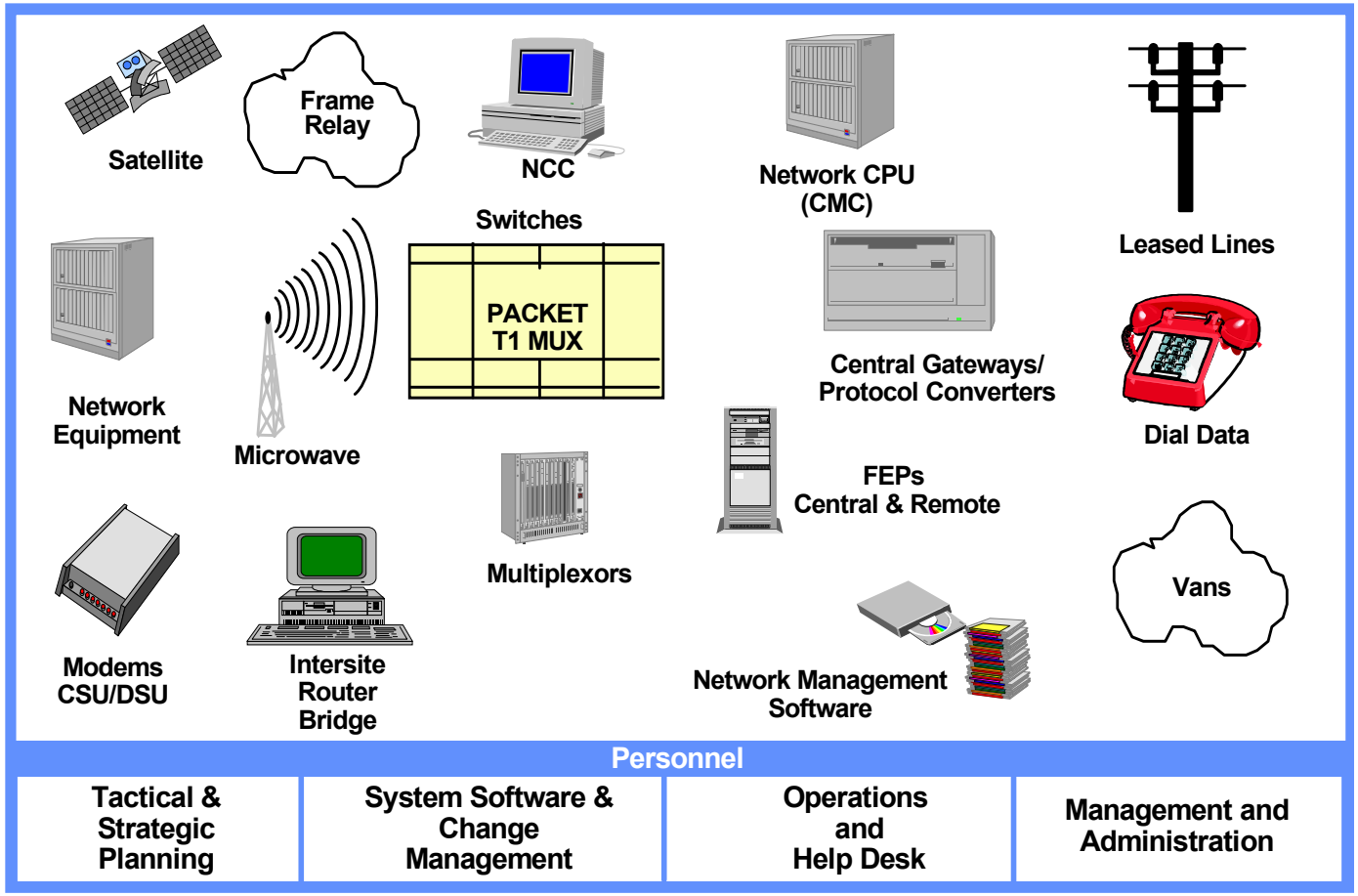
- Cost per user at $1,839 for Miami Dade Transit is 22.1% lower than the peer group average cost of $2,362 per user
- Miami Dade Transit utilizes 8.8 FTEs to support the Distributed Computing environment compared to 14.9 FTEs for the peer group
- Cost per Miami Dade Transit FTE is $65.7K versus $69.6K for the peer group
- Miami Dade Transit's software cost of $357K is higher than the peer group at $222K
- LAN / Shared Services costs are 6.6% higher than the peer group
- Hardware, personnel, and outsourcer costs are significantly lower than the peer group

Distributed Computing



	MDT	PEER	MDT	PEER
Outsourcer	$130,468	$208,443		
Personnel	$580,699	$1,038,144		
LAN / Shared Services	$420,096	$394,128		
Software	$357,428	$222,001		
Hardware	$350,441	$498,804		
Cost per User			$1,839	$2,362

Wide-Area Data Networks



The wide-area data networks assessment includes hardware, software, transmission and labor support for a wide-area network, defined as a network that crosses a public thoroughfare.

Local-area network costs and work are excluded from the wide-area data network analysis. A device (the unit for the cost metric) is defined as anything that can originate or terminate wide-area network traffic.

Wide-Area Data Networks

Scope of Wide-Area Data Networks

- Type of network = Multiprotocol
- 1,109 devices
- 8 sites
  - **CPS**
  - **Coral Way**
  - **Central**
  - **North East**
  - **Lehman/Palmetto**
  - **SPCC**
  - **ATS**
  - **Mover (100 SW 1st Street)**
- Total FTEs = 2.1
- Spending = $442,216

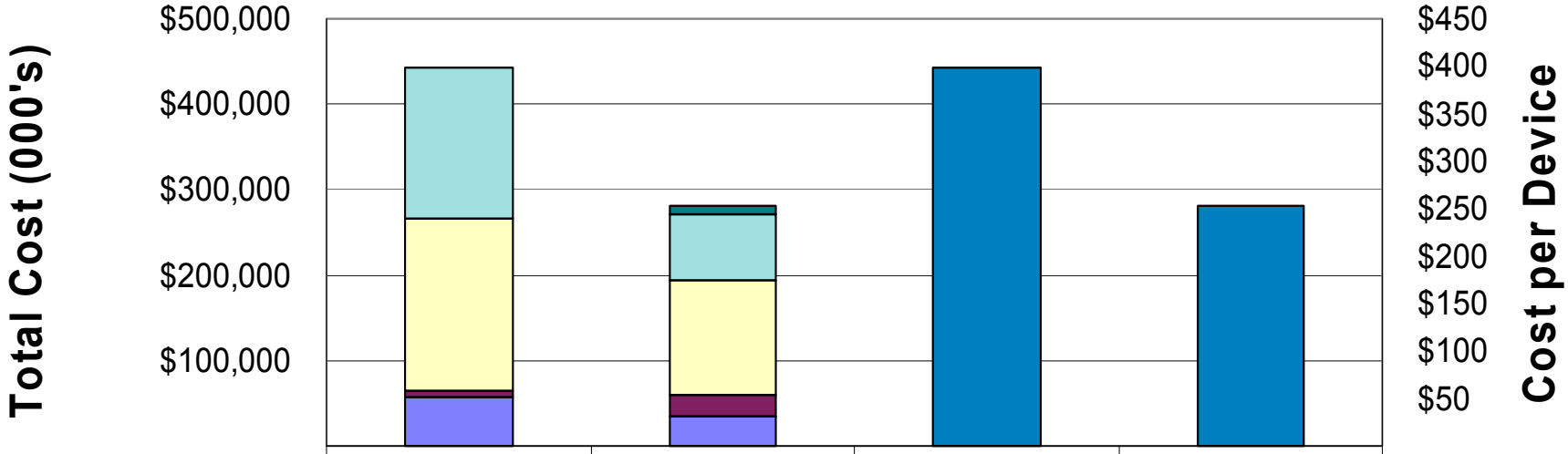
Peer Profile

- 7 enterprises with similar workload distribution:
  - 12 sites
  - 1,397 devices
- Peer group includes 3 public administration, 2 healthcare, 1 utilities, 1 transportation

Observations

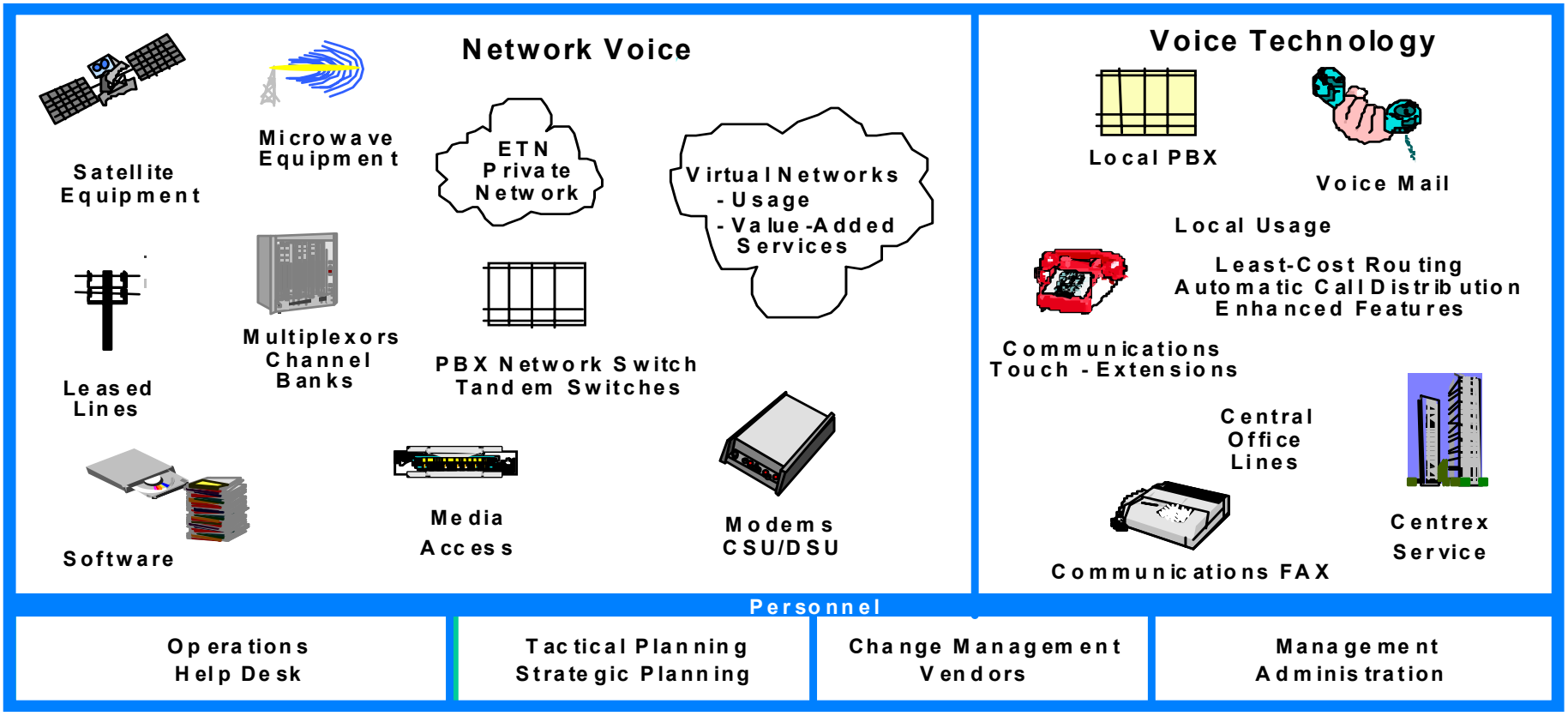
- Cost per device at $399 for Miami Dade Transit is higher than the peer group average spend of $254 per device
- Miami Dade Transit utilizes 2.1 FTEs to support the Wide Area Data Network compared to 1.2 FTEs for the peer group
- Transmission costs of $201K for Miami Dade Transit are 51.2% higher than the peer group cost of $133K

Wide-Area Data Networks



	MDT	PEER	MDT	PEER
Outsourcer		$9,259		
Personnel	$175,788	$78,948		
Transmission	$200,742	$132,682		
Software	$9,000	$24,416		
Hardware	$56,686	$36,017		
Cost per Device			$399	$254

Voice Network and Voice Technology



The voice network analysis includes long distance call services. Costs for transmission and any dedicated hardware and software are included along with labor associated with supporting long distance services.

The voice technology analysis encompasses local telephone services including management of switches or Centrex services as well as managing user extensions.

Voice Network

Scope of Voice Network

- 479,251 Total Minutes
- Spending = $47,390

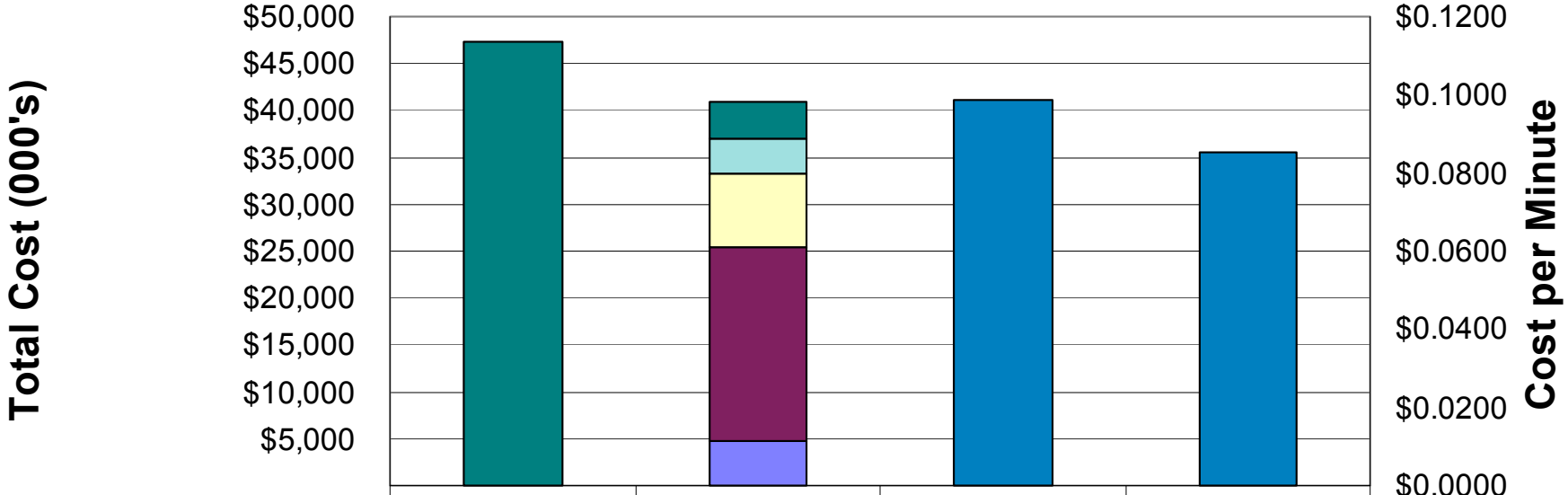
Peer Profile

- 5 enterprises with similar workload distribution:
- Peer group includes 1 public administration, 1 healthcare, 1 utilities, 1 consumer goods, 1 petroleum/gas

Observations

- Cost per minute at $0.099 for Miami Dade Transit is higher than the peer group average spend of $0.085 per minute
- Voice Network services are provided by ITD and costs are shown as Outsourcer

Voice Network



	MDT	PEER	MDT	PEER
Outsourcer	$47,390	$3,938		
Personnel		$3,708		
Access		$7,904		
Usage		$20,595		
Hardware & Software		$4,819		
Cost per Minute			$0.099	$0.085

Voice Technology

Scope of Voice Technology

- Sites = 5
  - **Central**
  - **Coral Way**
  - **North East**
  - **SPCC**
  - **Lehman/Palmetto**
- Extensions = 3,500
- Total FTEs = 0.1
- Spending = $908,130

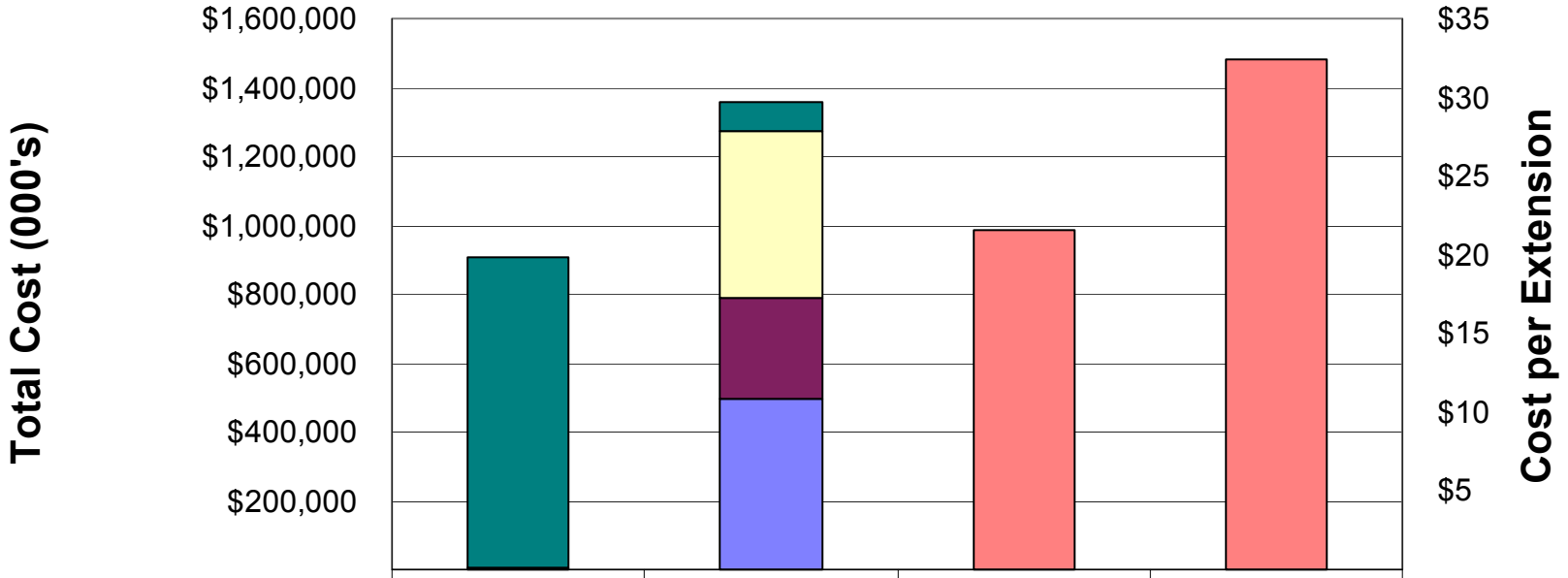
Peer Profile

- 16 enterprises with similar technology and workload profile
- Extensions = 3,456
- Peer group includes 4 utilities, 3 manufacturing, 5 public administration, 4 healthcare

Observations

- Cost per extension of $21.62 for Miami Dade Transit is 33.2% lower than the peer group
- The Miami Dade PBX environment is a service provided by ITD
- $825,950 for the phone system and $76,203 for maintenance were included in the ITD costs reported

Voice Technology



	MDT	PEER	MDT	PEER
Outsourcer	$902,153	$87,054		
Circuits		$482,448		
Personnel	$5,977	$292,324		
Hardware & Software		$497,832		
Cost per Extension			$21.62	$32.37

Applications Development

Scope of Applications Development

- Function Points Developed = 3,024
- Total FTEs = 9.3
- Spending = $887,201

Peer Profile

- 7 enterprises with similar technology and workload profile
- Function Points Developed = 3,160
- Peer group includes 4 public administration, 1 manufacturing, 1 utility, 1 banking

Observations

- Cost per function point developed at $293 is the same as the peer group's cost at $293 per function point
- The entire database average cost per function point developed is $278, with the 25th percentile at $175 and the 75th percentile at $379
- Miami Dade Transit utilized 9.3 FTEs at an average of $74,412 per FTE versus the peer group at 10.7 FTEs at an average cost of $73,904

Applications Development

What is the Definition of a Function Point?

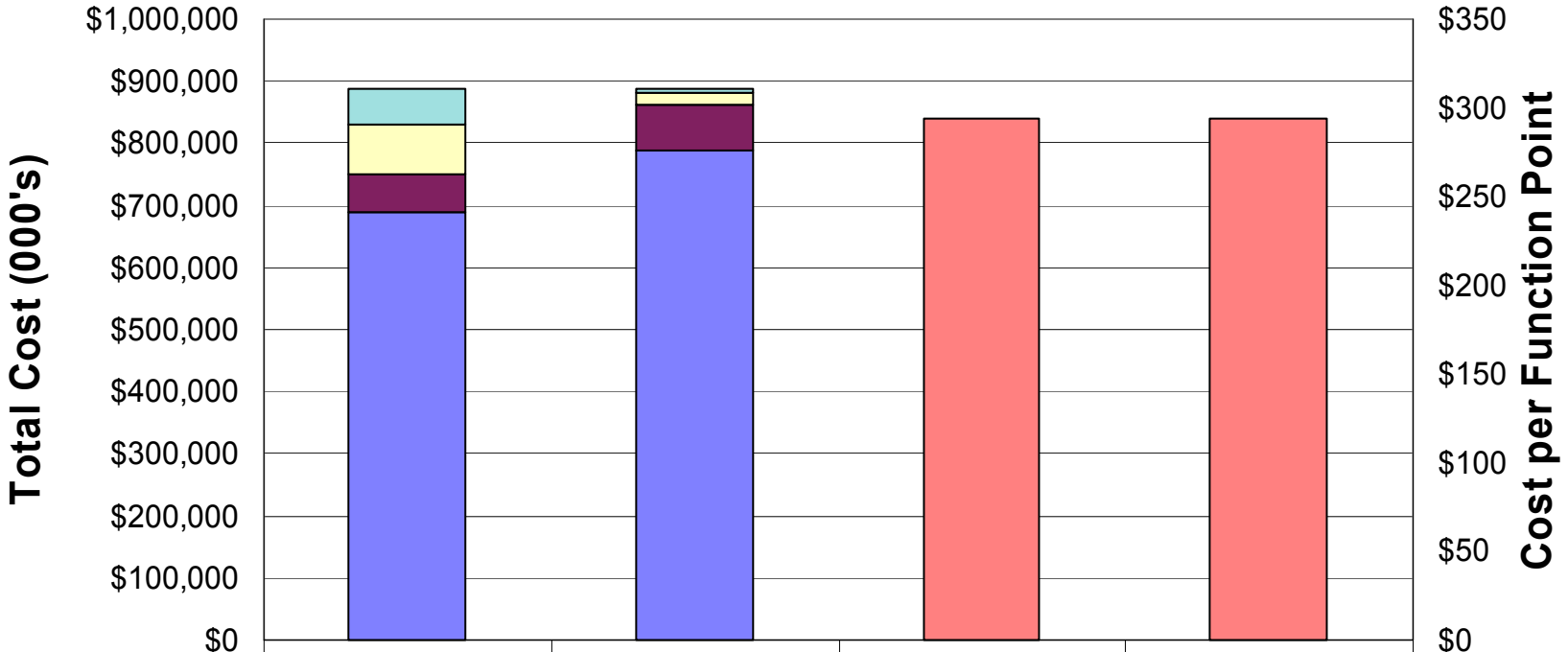
Function points are a measurement that was created in 1980 by Alan Albrecht, then a Vice President with IBM. He decided that a method for sizing systems was needed that would look at the system strictly from a user's point of view. What, or how much functionality, was the system providing for the user?

From a company's internal point of view, Function Points are used to determine the complexity of software. The size (or weight) of a company's software can be expressed in terms of a Function Point count - just as a meal can often be expressed by its calorie count. Counts range from thousands (a relatively small software portfolio) to hundreds of thousands (very large).

At the highest level, Function Points look at five activities that a system can perform for the user:

- Maintaining an internal data file
- Allowing a system to communicate with other systems
- Allowing user input
- Providing user reports
- Allowing user inquiries.

Applications Development



	MDT	PEER	MDT	PEER
Outsourcer	$58,577	$4,945		
Technology	$80,000	$21,523		
Vendor	$60,310	$72,383		
Personnel	$688,314	$788,673		
Cost per FP			$293	$293

Applications Support

Scope of Applications Support

- Total FTEs = 4.5
- Function Points Supported = 21,007
- Spending = $395,897

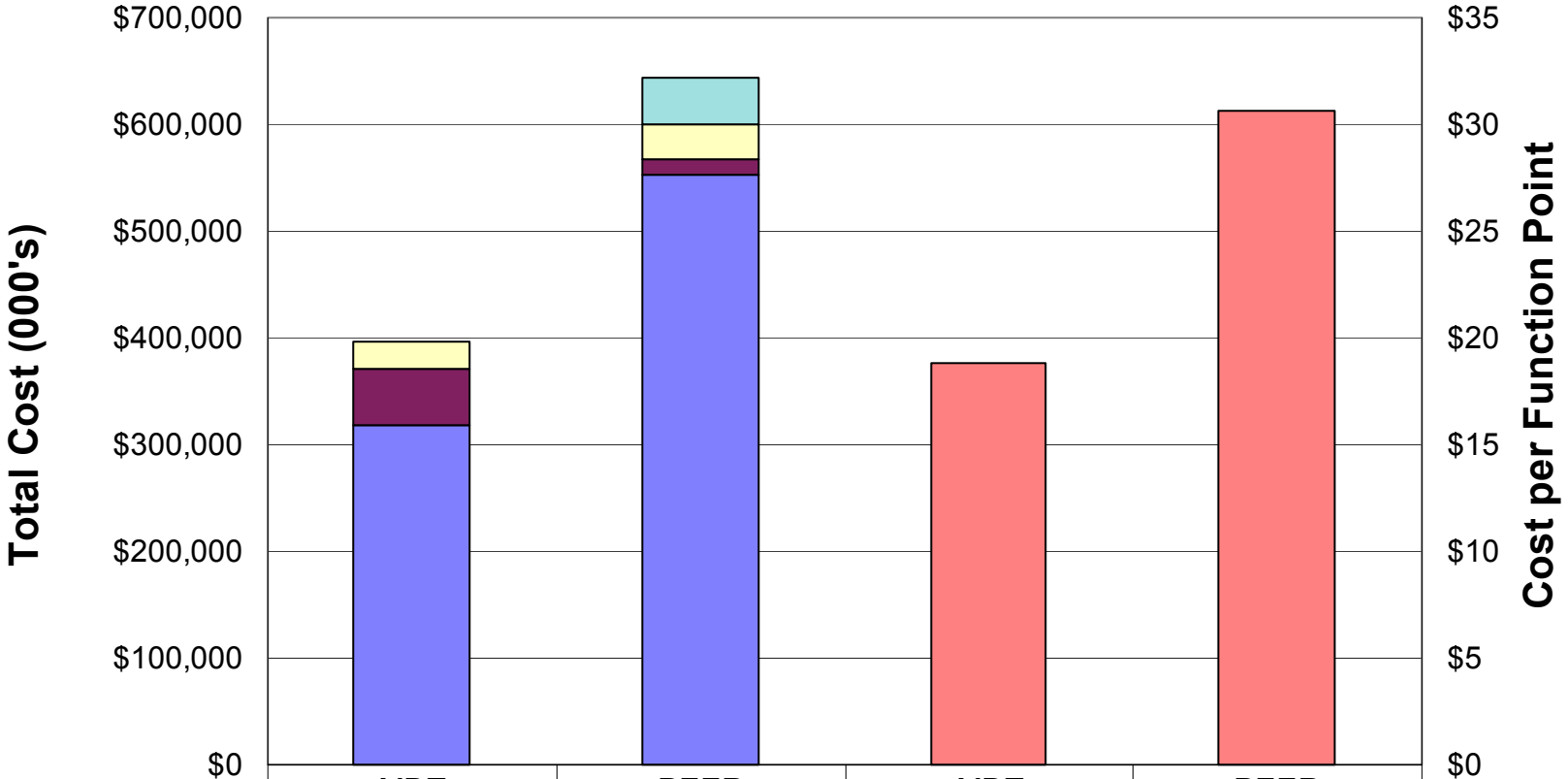
Peer Profile

- 6 enterprises with similar technology and workload profile
- Peer group includes 4 public administration, 1 utility, 1 aerospace

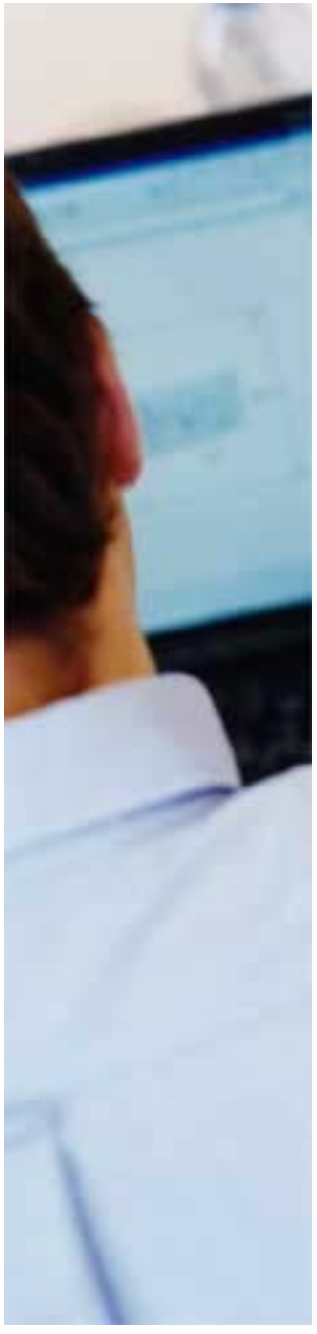
Observations

- Cost per function point supported at $18.85 is 38.5% lower than the peer group's cost at $30.65 per function point
- Miami Dade Transit utilizes 4.5 FTEs at an average of $70,110 per FTE versus the peer group at 6.0 FTEs at an average cost of $91,752

Applications Support



	MDT	PEER	MDT	PEER
Outsourcer		$44,278		
Technology	$24,344	$32,201		
Vendor	$52,557	$14,184		
Personnel	$318,996	$553,215		
Cost per FP			$18.85	$30.65



Appendix A

Alignment

IT/Business Alignment

Summary of IT/Business Alignment

Overall, the dependence on IT and the confidence in MDT ITS to provide IT services has increased from the department respondent's perspective. Current and future satisfaction scoring has also improved compared to prior satisfaction of the services delivered and developed by MDT ITS. In the specific areas of content, quality and cost, significant improvements have been recognized by the departments, but less so with the ability to deliver in a timely fashion. The departments also expressed a great deal of confidence in what will be developed and delivered.

Both MDT ITS and the department respondents indicated a good understanding of the Planning and Decision process for ITS and the departments. The departments indicated a periodic and formal process was in place to communicate their requirements to MDT ITS, and ITS also recognized they have good communication with the departments to understand their requirements.

The departments responding indicated they have a better understanding of MDT ITS' goals and strategies than ITS' view of the departments understanding. The departments also indicated that the ITS strategy was somewhat aligned with their goals.

IT/Business Alignment

- ***The management (LOB/CIO) surveys were completed for clients utilizing one or more of the services provided by the MDT ITS organization. The LOB surveys were completed by the following areas:***
  - Bus Maintenance Management
  - Bus Maintenance
  - Engineering Services / Construction
  - Materials Management
  - Safety and Security
  - Transit Engineering
  - Transit Maintenance Production
  - Rail Maintenance Control

IT/Business Alignment

- The purpose of the management surveys is to gain an understanding of the quantitative and qualitative aspects of the IS organization as well as how IT services are delivered to, and perceived by the business units.
- A major contributing factor to aligning the IS organization with the business objectives of the organization is a mutual understanding of strategies between the IS organization and the business units. Ideally, IS and the business units will contribute to each other's strategic plans. The goal of this collaboration is to maximize the benefits of IT to the organization.
- Selected survey comments from the departments responding are shown on the following pages.

IT/Business Alignment

Strategic business objectives for the next three years:

- An estimated 50% increase in services.
- 10% increase security service to mitigate threats and losses throughout the system.
- Consolidate and refine RMC functions and processes, develop more standardized failure management and predictive maintenance measurements.
- Automate preventive maintenance scheduling, repair codes, on time performance, job standards.
- The selection for the design-built consultant for North Corridor Metrorail project should be made work should begin.
- To meet the requirement dictated by the Peoples Transportation Plan. Specifically; the increase of fleet size.
- Obtain and maintain 100% PM Adherence. Increase miles between service failures to 2700 and above. Improve productivity and failure management.
- Provide a high level of service and adequate supplies to meet the agencies increased demand for materials

IT/Business Alignment

Prior business objectives - satisfaction and importance ratings:

- Although the MDT Office of Safety and Security was dependent on IT/IS in the past, the need was not as great as it is expected to be in the future. Generic applications for use by the office would have sufficed in the past. This, however, will change as new technology for access control and surveillance is designed and installed.
- IS always try to understand our needs. For some reason IS is not able to provide our needs on a timely fashion.
- Not being able to get the needed tools (hardware and software) in a timely manner can be crippling for employees in this division.
- Would have liked a more current system, however one is in the works and hopefully a higher level of satisfaction will be achieved.

IT/Business Alignment

Strategic Initiatives:

- Expansion of operation
- Solidify conceptual plans and identify funding for a real time surveillance system for bus, rail and mover
- Expansion of functions to include TQM
- Hire more employees
- Expansion
- Improved Failure Management
- Simplification through Automation
- Launching new products/services
- Develop or purchase an integrated computerized safety data tracking system
- Develop Job Standards, include QC
- Office spaces.
- Research and Development
- Improved Efficiency and Productivity
- Expansion of operations
- Maintain security program and guard quality during expansion of security project and high contractor employee turnover, post the September 11, 2001, terror attacks.

IT/Business Alignment

Strategic Initiatives (continued):

- Develop Work Measures
- Computer hardware and software for new employees and update all the existing existing computer hardware and software.
- Strategic Alliances
- Quality Assurance
- High level of service

IT/Business Alignment

Dependence of IT on Strategic Initiatives:

- The installations are very reliant on high technology and involve software interface with hardware. The systems will also require routine maintenance.
- Without the computer hardware, software, office equipment and office space the new employees could not perform their job at all.
- Bus Maintenance Control plays a supportive role by providing Maintenance Managers with analytical tools to accomplish their objectives of fleet reliability and maintainability. Bus Maintenance Control inputs maintenance data into the system and is responsible for ensuring preventive maintenance is performed when required.
- We depend on IT systems to provide us with the mileage and other information which assist us in scheduling the buses for routine maintenance as well as providing us with fleet maintenance history.
- The database and the ability to communicate efficiently is the life force of the operation and any future accomplishments will be highly dependent on the technology we employ.

IT/Business Alignment

Additional IT resources / services required:

- Increased service levels, additional desktop, application development planning, design, programming, additional hardware, additional support personnel
- More software support, more customized menu driven reporting capabilities, additional hardware which has been requested for over 2 years.
- Additional desktop HW/SW, office equipment for new employees.
- Additional Equipment, Software and Training
- The IT resources utilized in the past have included application development and maintenance, additional desktop hardware/software and planning and designing of systems.
- Expanded computing platforms and additional desktops, New application development, expanded data connectivity, increased service levels.

IT/Business Alignment

Resources, if any, you anticipate getting from the IS organization:

- Labor, hardware, software, programming
- Everything that I mentioned above.
- IT equipment and support.
- Full deployment of the necessary hardware and software as well as training and support. Note that training and support may be outsourced through the IS Organization.

Resources, if any, you anticipate getting from other sources:

- Maintenance actual hardware installation and product
- None.
- Very little if any.

Primary reasons you don't anticipate getting all required IT resources from the IS organization:

- Lack in expertise

IT/Business Alignment

Confidence in the IS organization's ability to fulfill its portion of the IT requirements of the strategic initiatives:

- The product to be delivered is a very costly one and must interface with existing infrastructure. Reliability is also a key since it will be used to control safety and security functions.
- Some things such as procurement are outside the control of IT and has caused many delays in meeting our needs. The ratings are therefore more reflective of the procurement side of the IT process.
- The process of obtaining a system to meet the growing needs is lengthy and does not keep up with technology. By the time the system is implemented, it will probably already be out-of-date.
- Highly confident in the abilities of the IS Organization, however outside factors need to be considered, I.e. budget, inter-government agency cooperation, the ability for the product to meet expectation and needs.

IT/Business Alignment

How well does the IS organization understand your strategic requirements?

- Our IS Division works very closely with the Office of Safety and security and is fully cognizant of the needs both short and long term.
- The strategic requirements are understood, however, other processes are counterproductive to success of IT processes.
- IS should do something to reduce the procurement time.
- They have a good understanding of the issues because there is good communication.
- The IS Organization has worked closely with us to determine our strategic requirements and has been moving in the direction necessary to meet our objectives.

IT/Business Alignment

Does the IS organization's decision process for resource allocation effectively reflect and incorporate your requirements?

- As mentioned earlier IS has worked closely with our division to determine our requirements and appears to be allocating the necessary resources.

How well do you understand the IS organization's goals / objectives and strategies to accomplish them? Do you agree with the IS organization's strategy?

- At times, there's a difference in priorities which can cause a negative impact. A delay in answering a request due to higher priorities can hamper our ability to analyze needed data in a timely manner.
- It is my understanding that the IS organization is geared at serving our department by attempting to meet our demands wherever possible and outsourcing where it is unable to.

IT/Business Alignment

Appropriateness / effectiveness of the IS organization's use of outside vendors / contractors / resources:

- The IT/IS Department will contract out areas in which they lack expertise.
- Not familiar with the organization's use and decisions governing them.

How well is the IT strategy aligned with your strategic business requirements?

- Not sure of the strategy.
- It seems that like us IS is concerned with providing high levels of service and meeting customer demands.

IT/Business Alignment

IT Services - Importance/Satisfaction

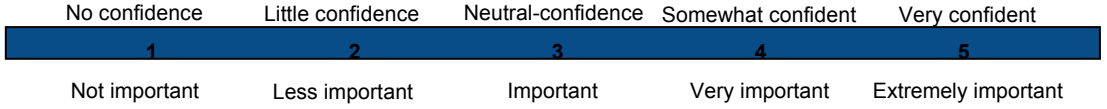
Service	Importance			Satisfaction		
	LOB	CIO/IS	Difference	LOB	CIO/IS	Difference
Desktop Environment/Infrastructure	4.86	4.50	0.36	3.50	3.00	0.50
IT Planning/Standards	4.39	3.92	0.47	3.38	2.92	0.47
End User Support/Services	4.73	4.00	0.73	3.38	2.50	0.88
Large Scale Processing	4.33	4.50	(0.17)	3.83	3.50	0.33
Applications Development	4.83	4.00	0.83	3.00	3.50	(0.50)
Applications Support	4.83	4.00	0.83	3.50	3.50	0.00
Communications Infrastructure/Services	4.57	3.83	0.74	3.33	3.00	0.33
Internet Capability/Access	4.57	3.00	1.57	3.71	3.00	0.71
Intranet Services	4.67	3.50	1.17	3.67	3.00	0.67
Negotiations/Procurement	4.50	3.50	1.00	3.40	3.00	0.40
Electronics Linkages to Customers/Partners	4.20	3.50	0.70	3.50	2.00	1.50
Project/Data Management	4.38	4.00	0.38	3.37	2.50	0.87
Multi-media Operations & Development	4.00	3.50	0.50	2.00	1.50	0.50
Security & Disaster Recovery	4.43	4.50	(0.07)	3.17	3.00	0.17

Overall, the department participants responding to the survey indicated a higher level of both Importance and Satisfaction than MDT ITS perceived with the services provided by MDT ITS.

IT/Business Alignment

IT Deliverables - Importance/Confidence that IS will deliver:

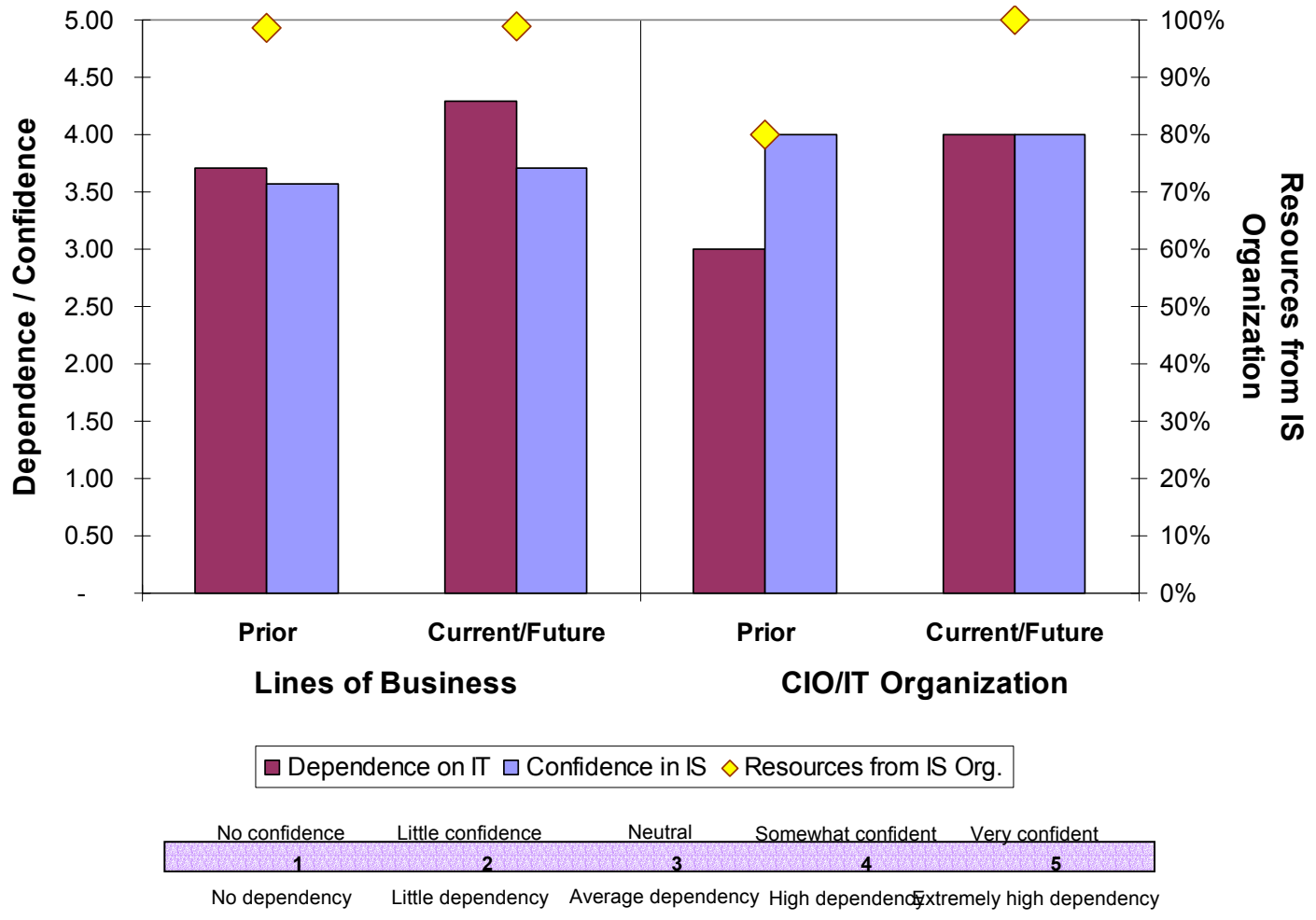
	Importance			Confidence that IS will Deliver on:		
	LOB	CIO/IS	Difference	LOB	CIO/IS	Difference
Content	4.71	4.00	0.71	3.57	4.00	(0.43)
Quality	4.71	4.00	0.71	3.43	4.00	(0.57)
Timeliness	4.57	4.00	0.57	2.71	3.00	(0.29)
Cost	4.33	3.00	1.33	3.50	3.00	0.50
Overall Confidence that IS can deliver				3.71	4.00	(0.29)



The departments responding to the survey indicated a higher level of Importance for each of the four areas than did ITS. ITS reported a higher confidence level that they will deliver on Content, Quality, and Timeliness. The departments had a higher level of confidence that the services would be delivered in terms of Cost parameters. The lowest confidence score from the departments was in the area of Timeliness, which ITS reported a relatively lower score as well.

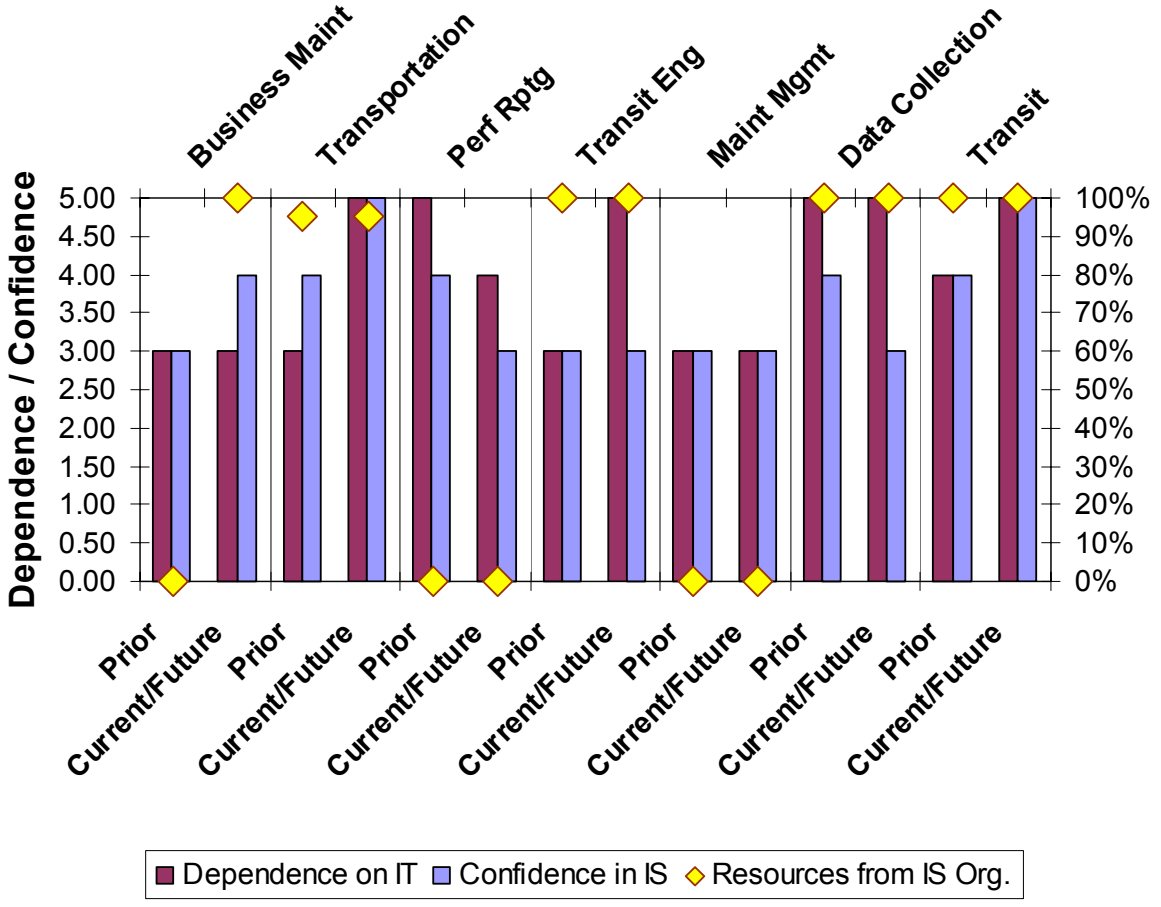
IT/Business Alignment

Dependence on IT, Confidence in IS Organization & IT Resources from IS Organization



IT/Business Alignment

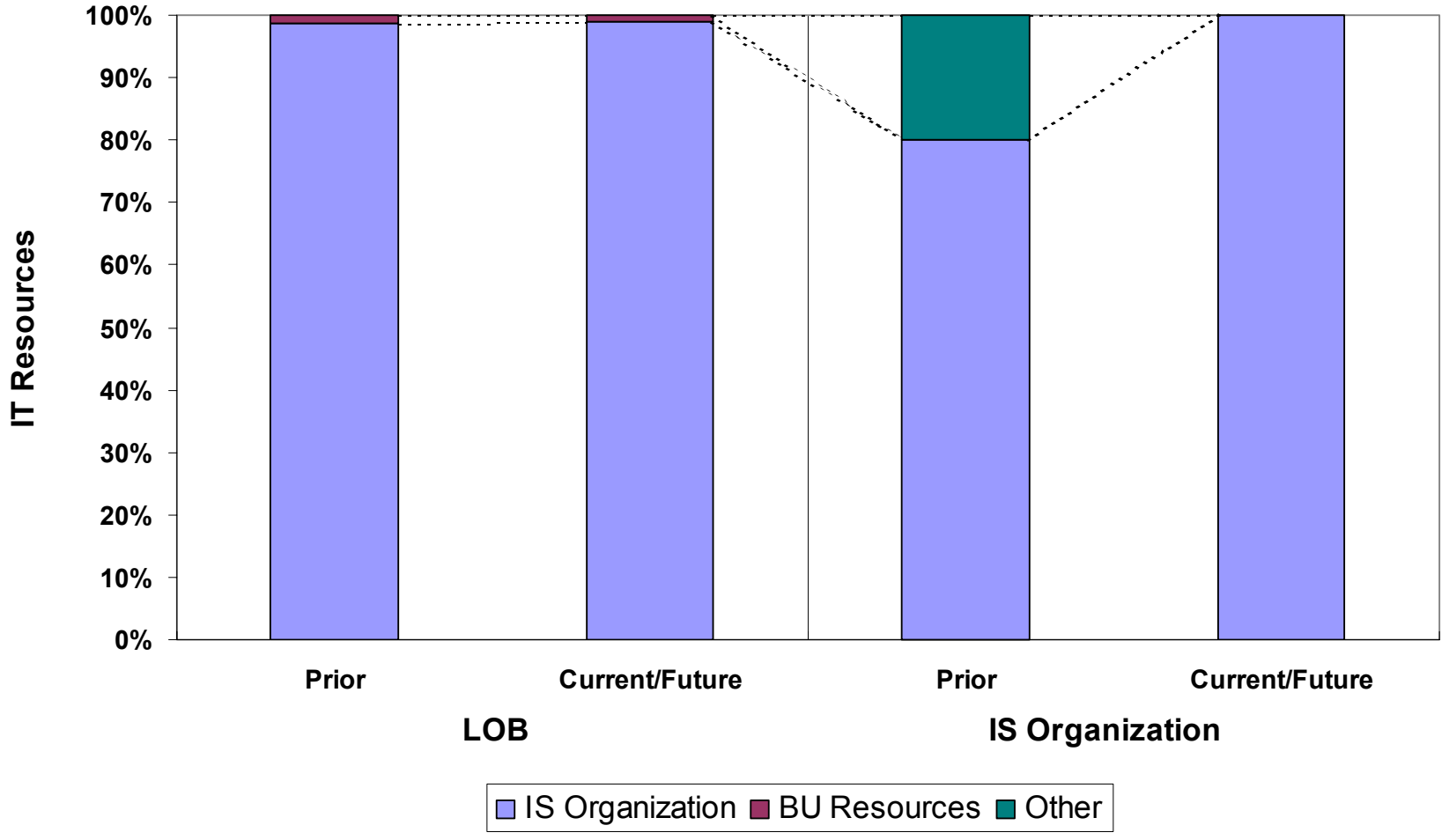
Dependence on IT, Confidence in IS Organization & IT Resources from IS Organization



Note: **IT Resources from IS Organization** include hardware, software, personnel, circuits, and any outsourcer services acquired through IS.

IT/Business Alignment

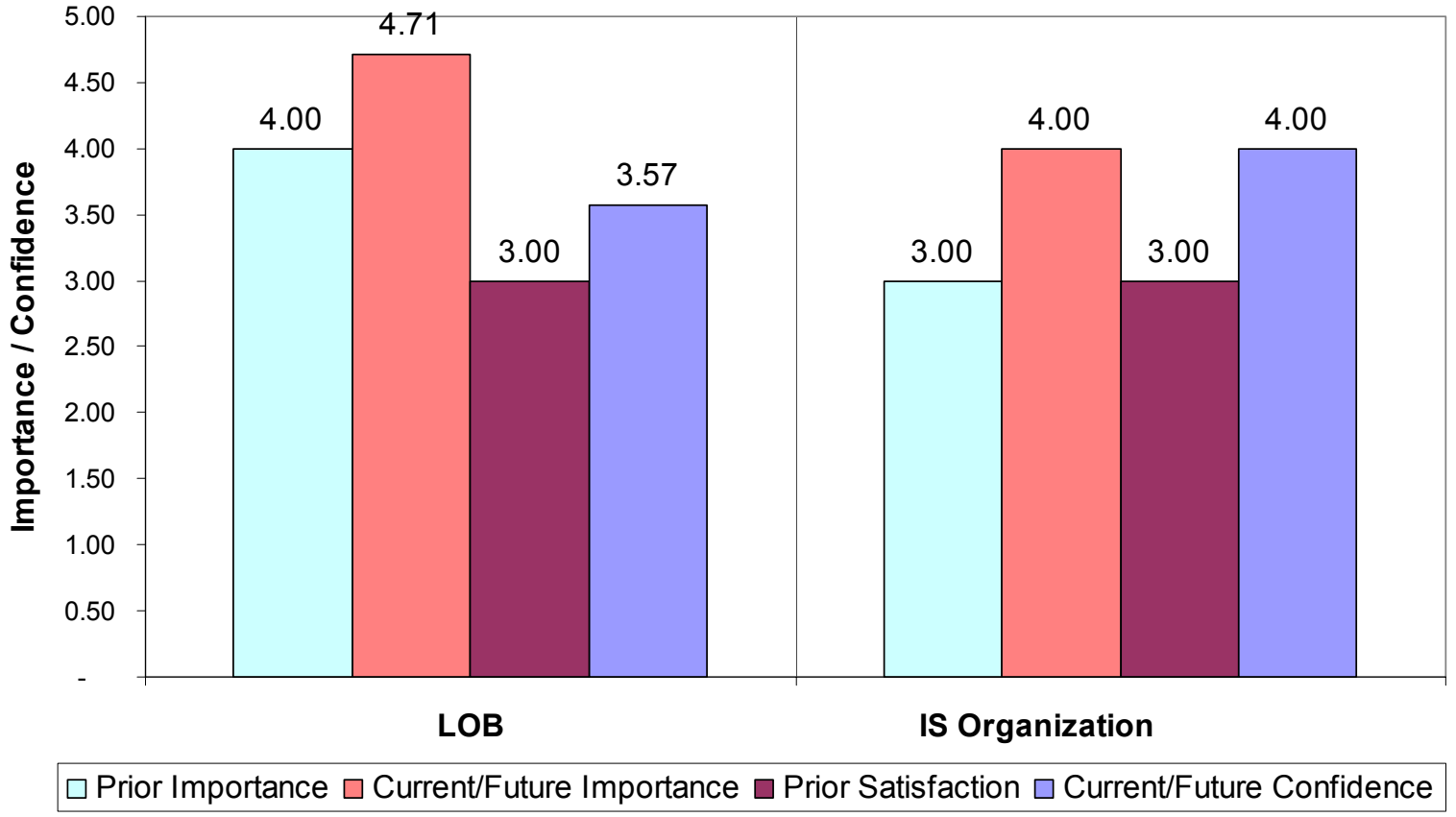
Source of IT Resources



This chart summarizes the responses from the departments (LOB) and ITS as to where the IT resources have been and will be acquired from.

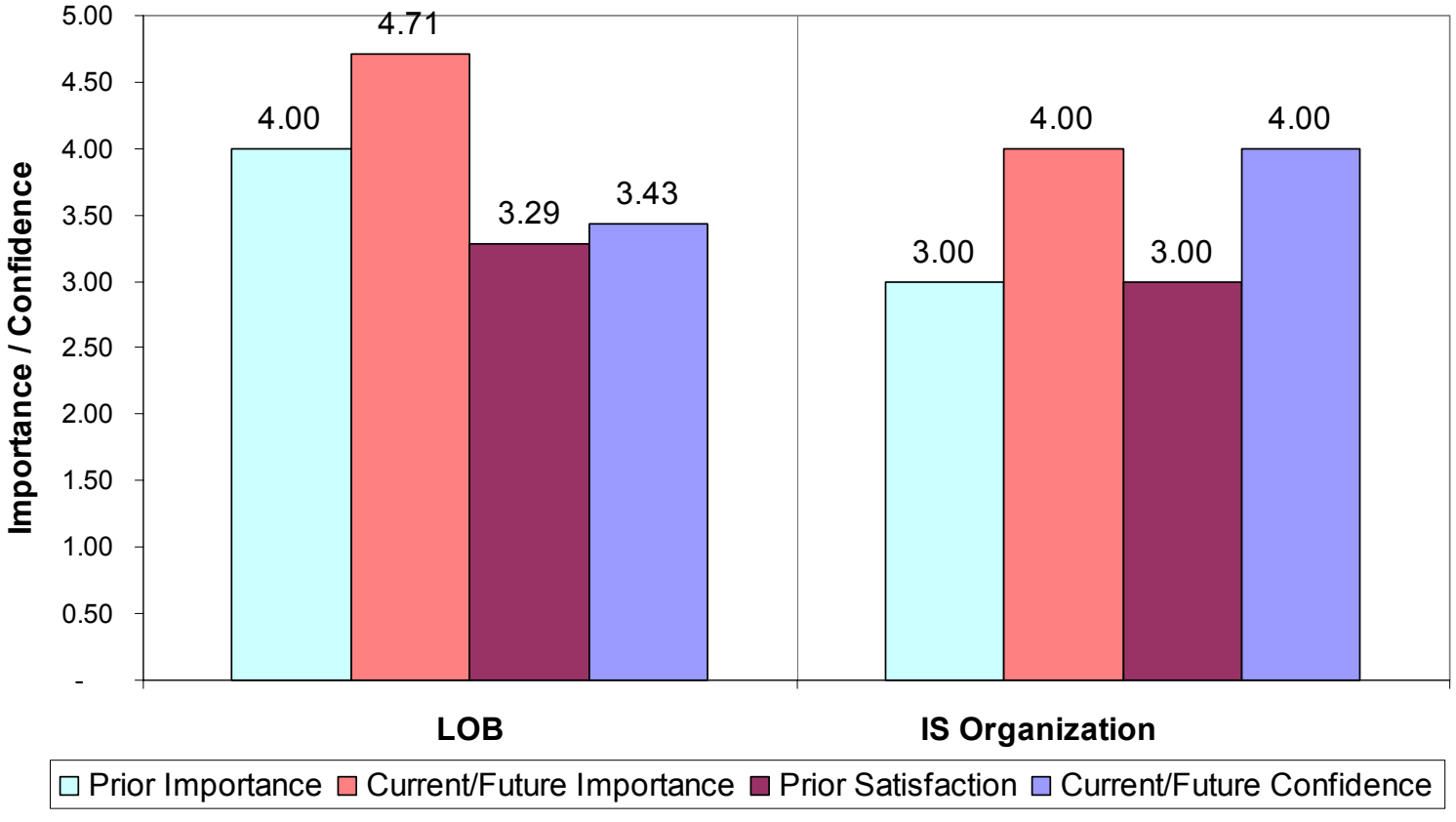
IT/Business Alignment

Content of Deliverables



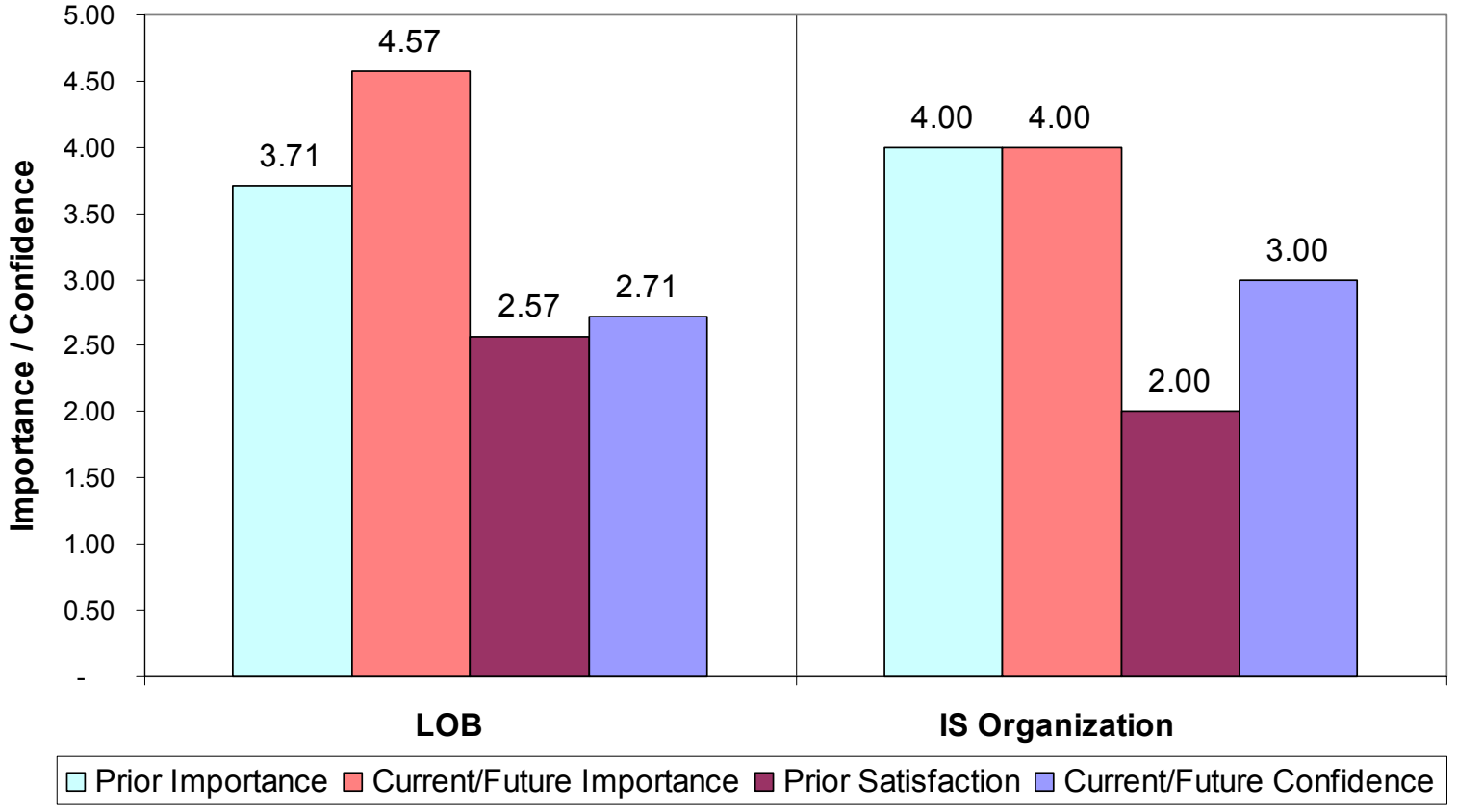
IT/Business Alignment

Quality of Deliverables



IT/Business Alignment

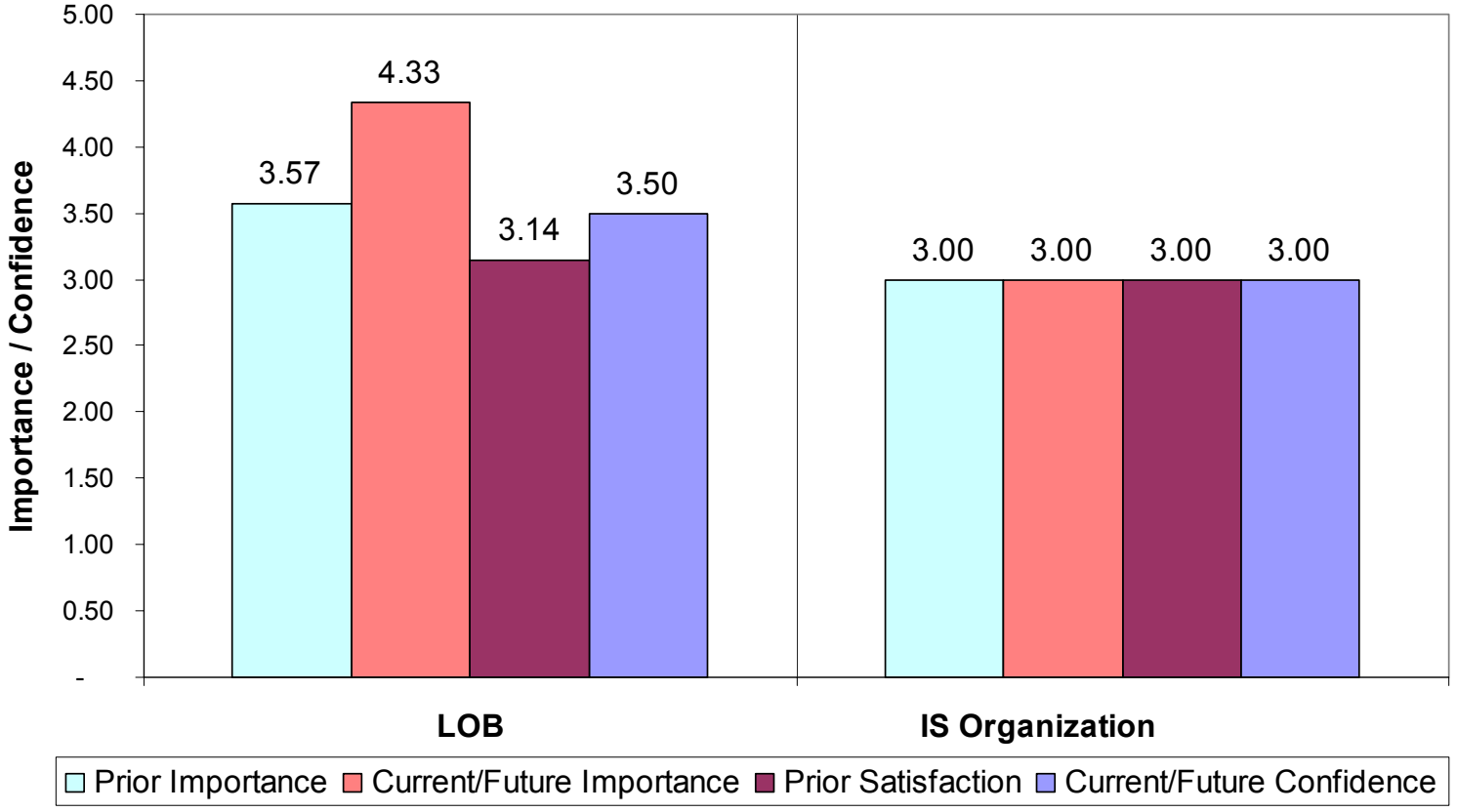
Timeliness of Deliverables



1	2	3	4	5
Dissatisfied	Less satisfied	Satisfied	Very satisfied	Extremely satisfied
Not important - No confidence	Less important - Little confidence	Important - Neutral-confidence	Very important - Somewhat confident	Extremely important - Very confident

IT/Business Alignment

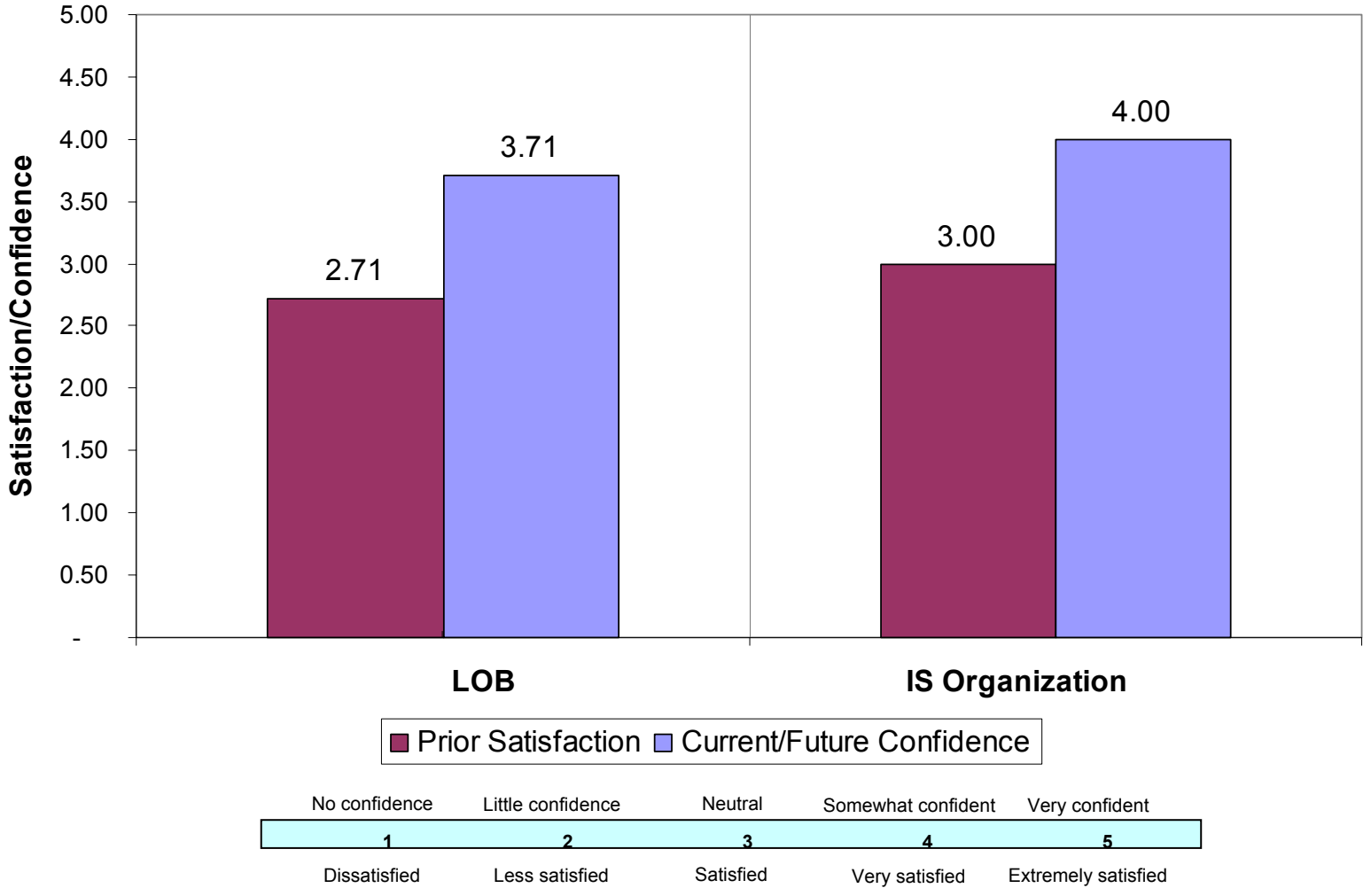
Cost of Deliverables



Dissatisfied	Less satisfied	Satisfied	Very satisfied	Extremely satisfied
1	2	3	4	5
Not important - No confidence	Less important - Little confidence	Important - Neutral-confidence	Very important - Somewhat confident	Extremely important - Very confident

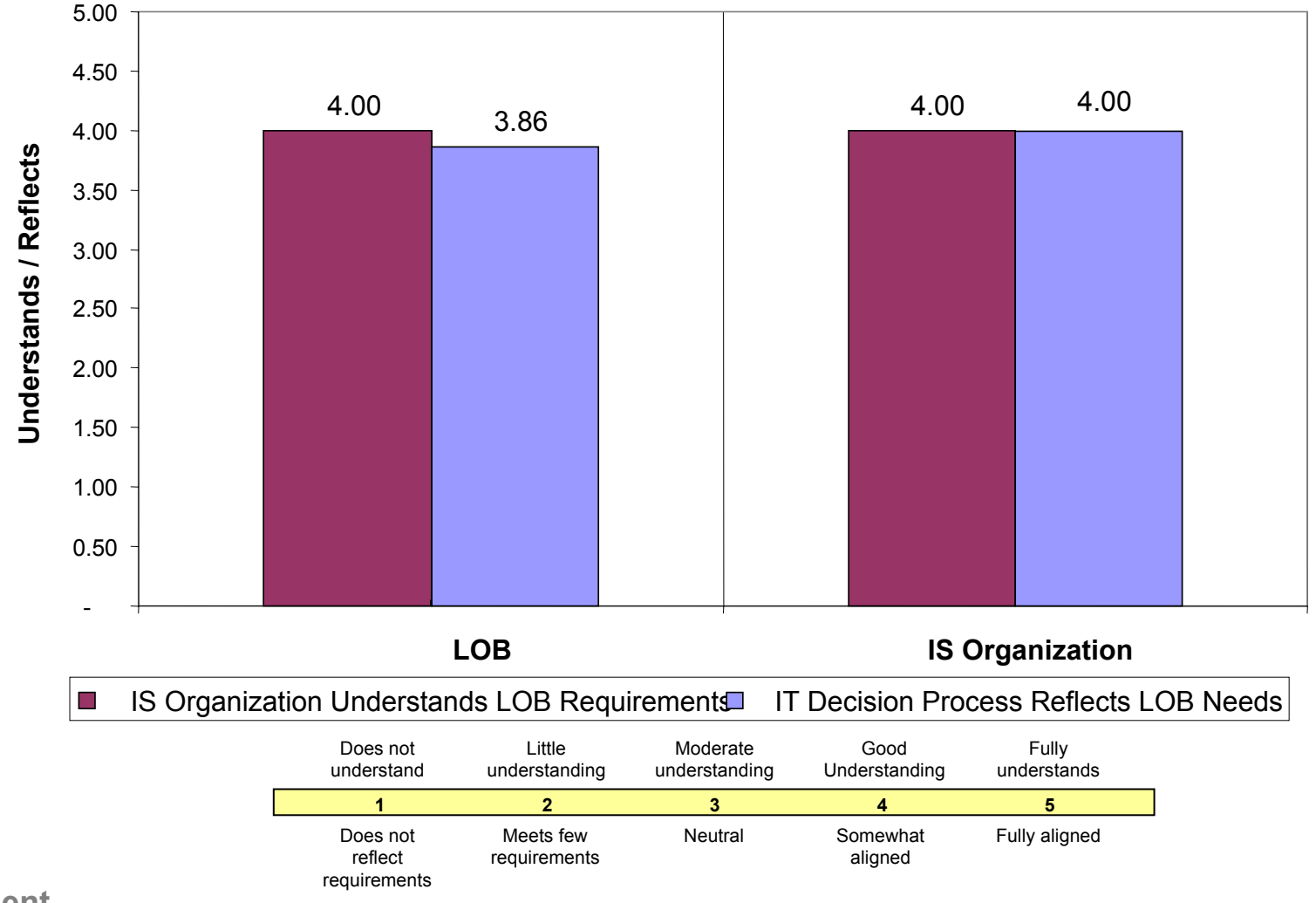
IT/Business Alignment

Overall Confidence With Deliverables



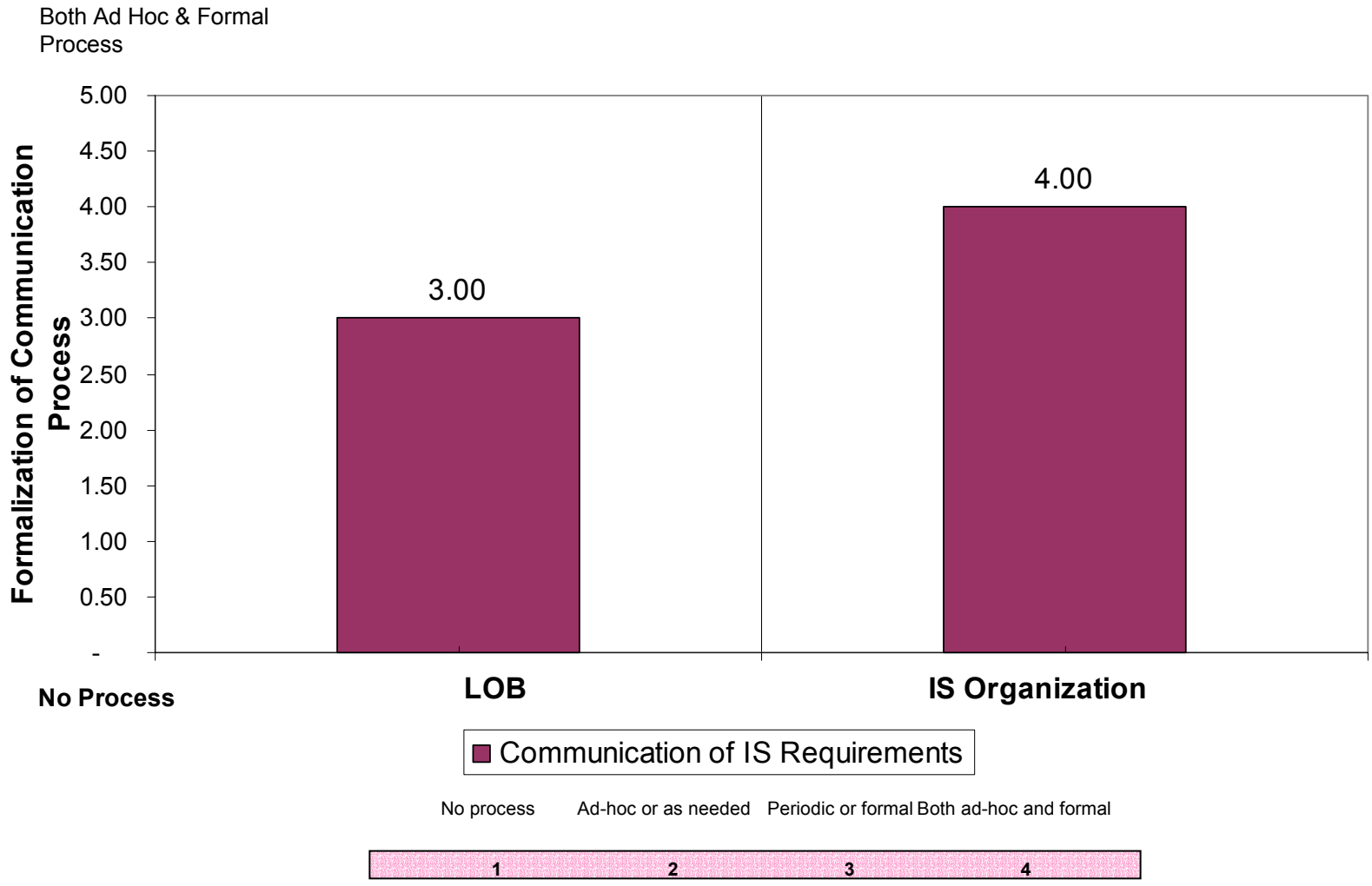
IT/Business Alignment

IS / LOB Planning and Decision Processes



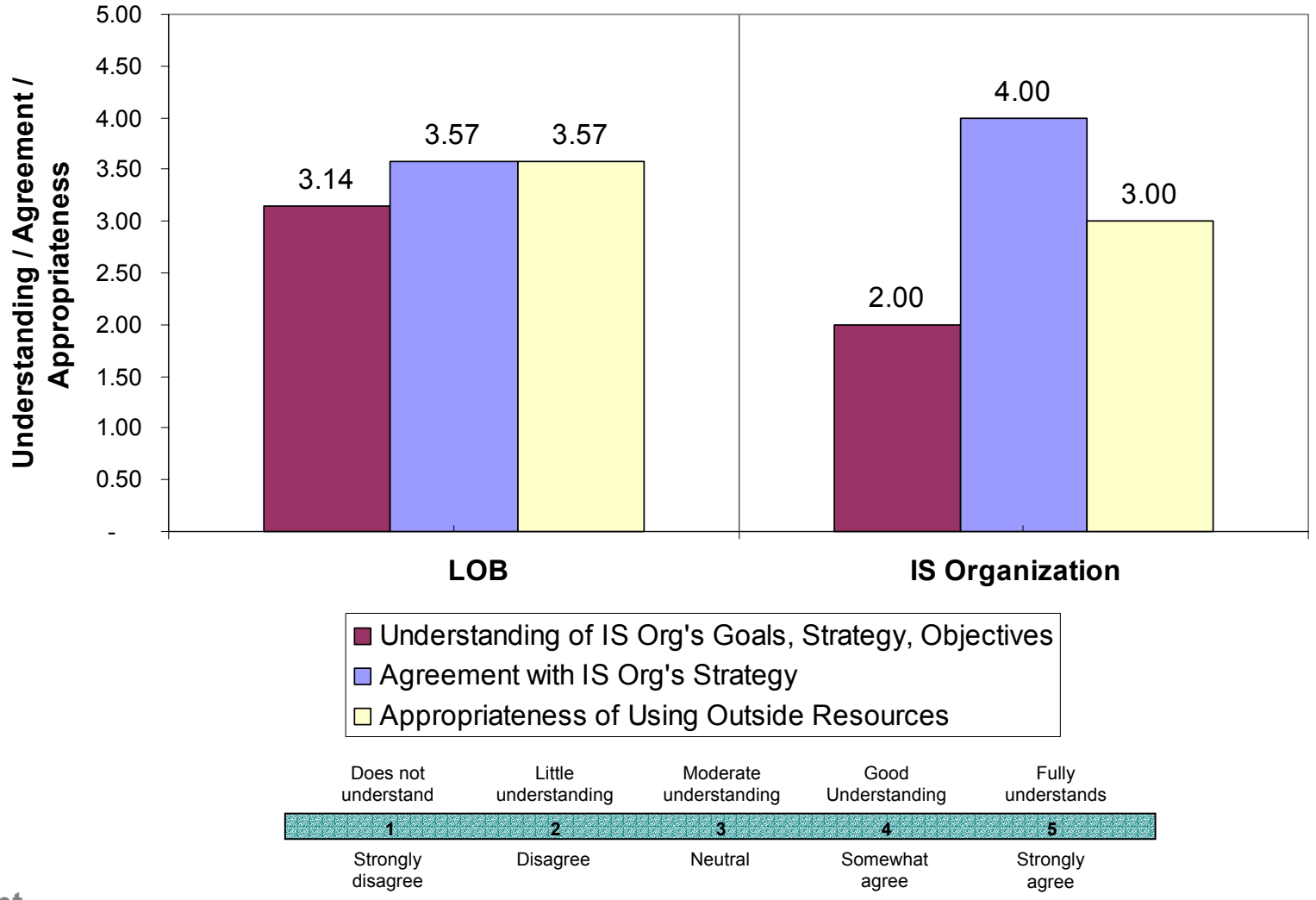
IT/Business Alignment

Communication of LOB Requirements to IS Organization



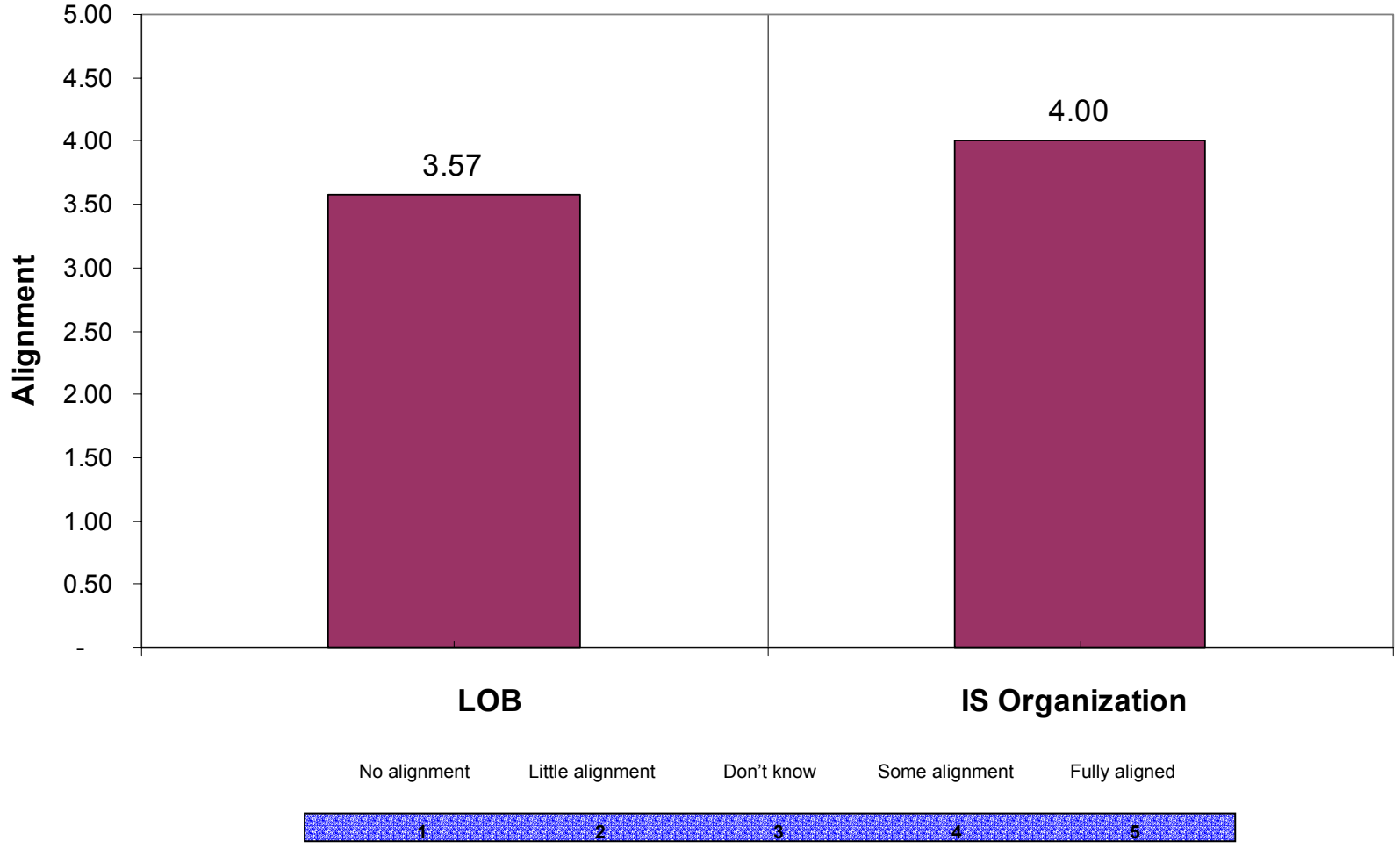
IT/Business Alignment

Understanding of IS Org.'s Goals, Agreement with IS Strategy, Appropriateness of Outside Resources

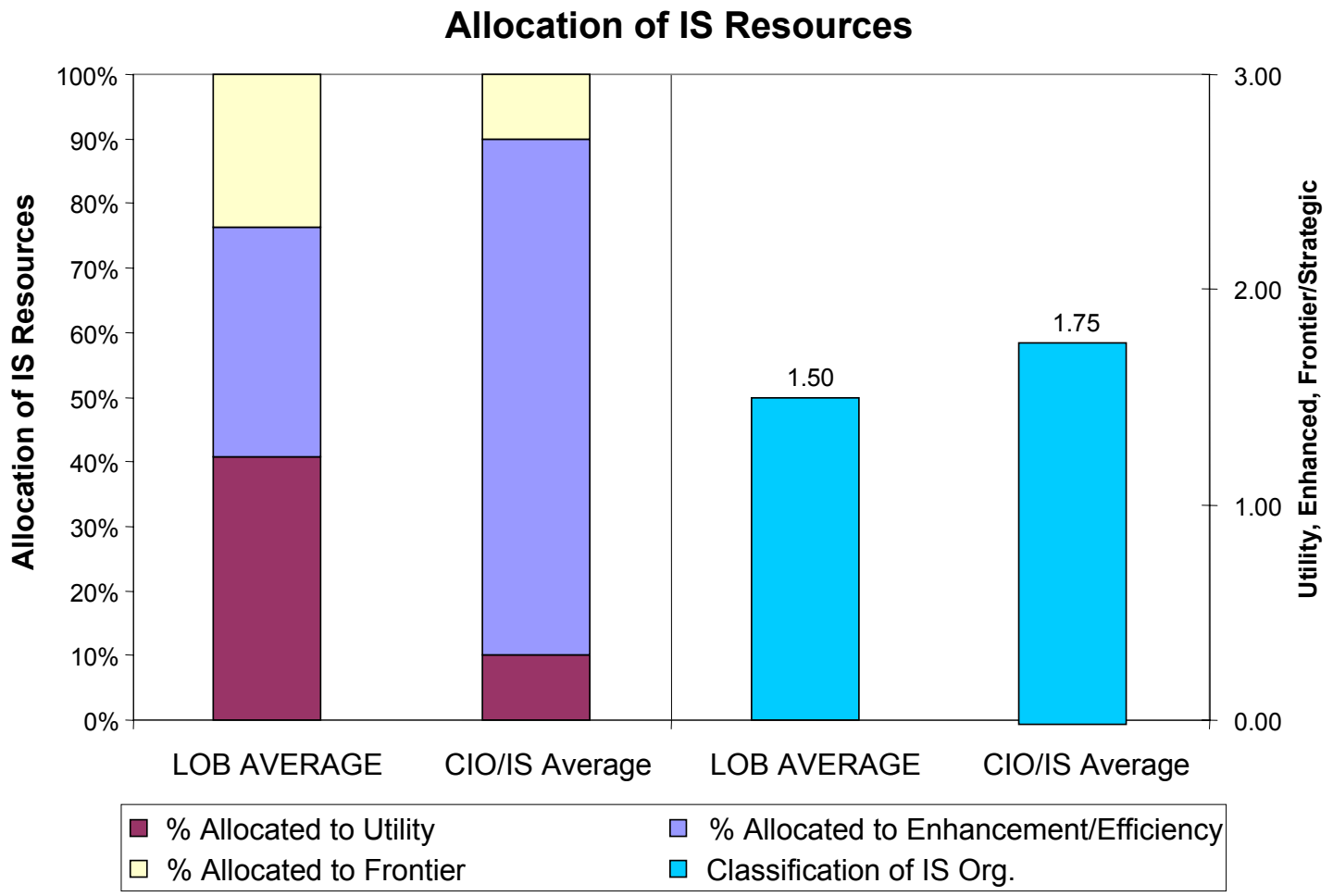


IT/Business Alignment

IS Strategy Aligned With Business Unit Goals



IT/Business Alignment



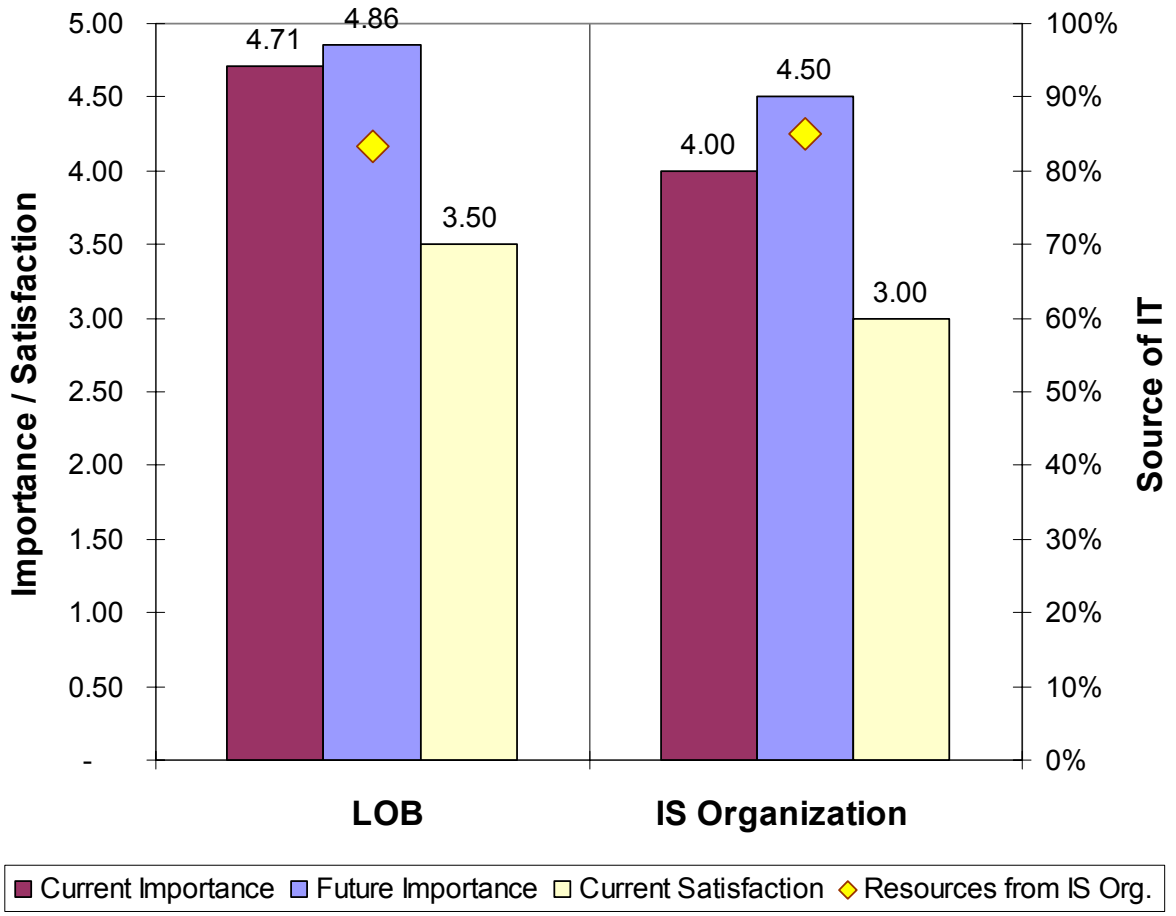
Utility / Production
Primarily cost-focused (expense), providing no added value above and beyond traditional IT infrastructure-related services (e.g., computing platforms, telecommunications, networking and end-user support)

Enhancement/Efficiency
Primarily having a productivity focus, thus improving the overall enterprise infrastructure performance over other IT organisations and moving the IT organisation closer to strategic objectives

Frontier/Strategic
Moves IT organization into new territory with the goal of making a dramatic difference, changing the basis of IT delivery / competition, moving into new business and being opportunity-focused

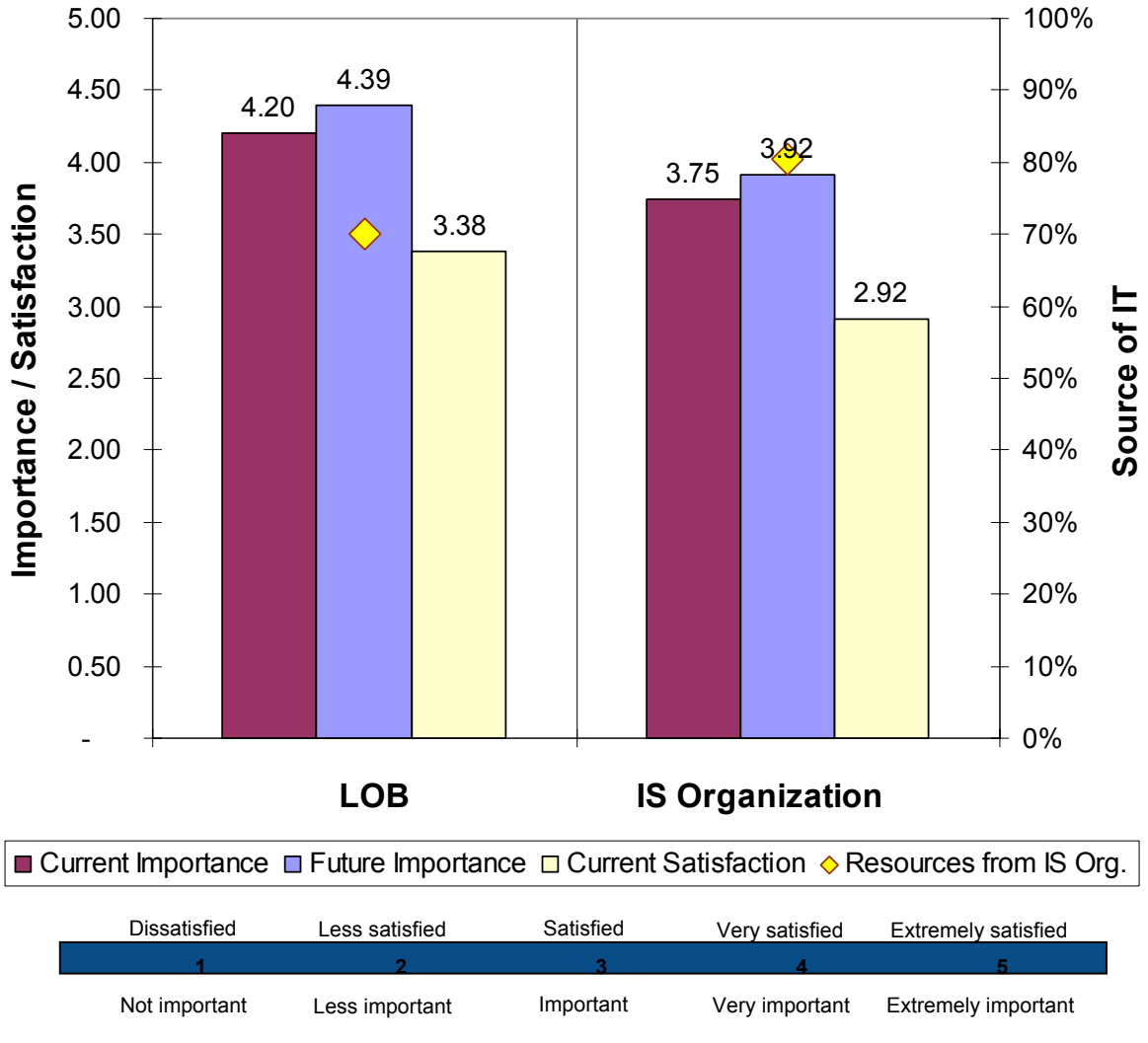
IT/Business Alignment

IT Services - Desktop Environment/Infrastructure



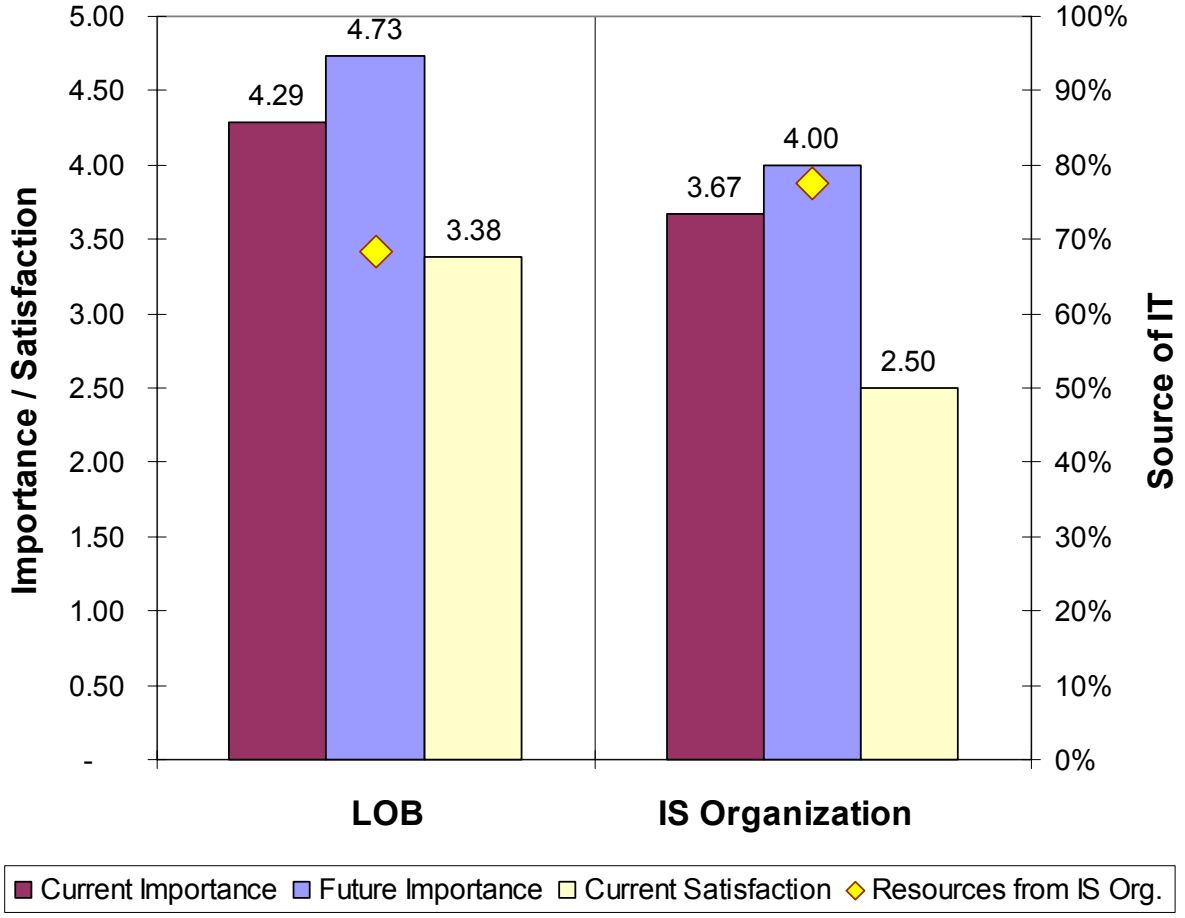
IT/Business Alignment

IT Services - IT Planning/Standards



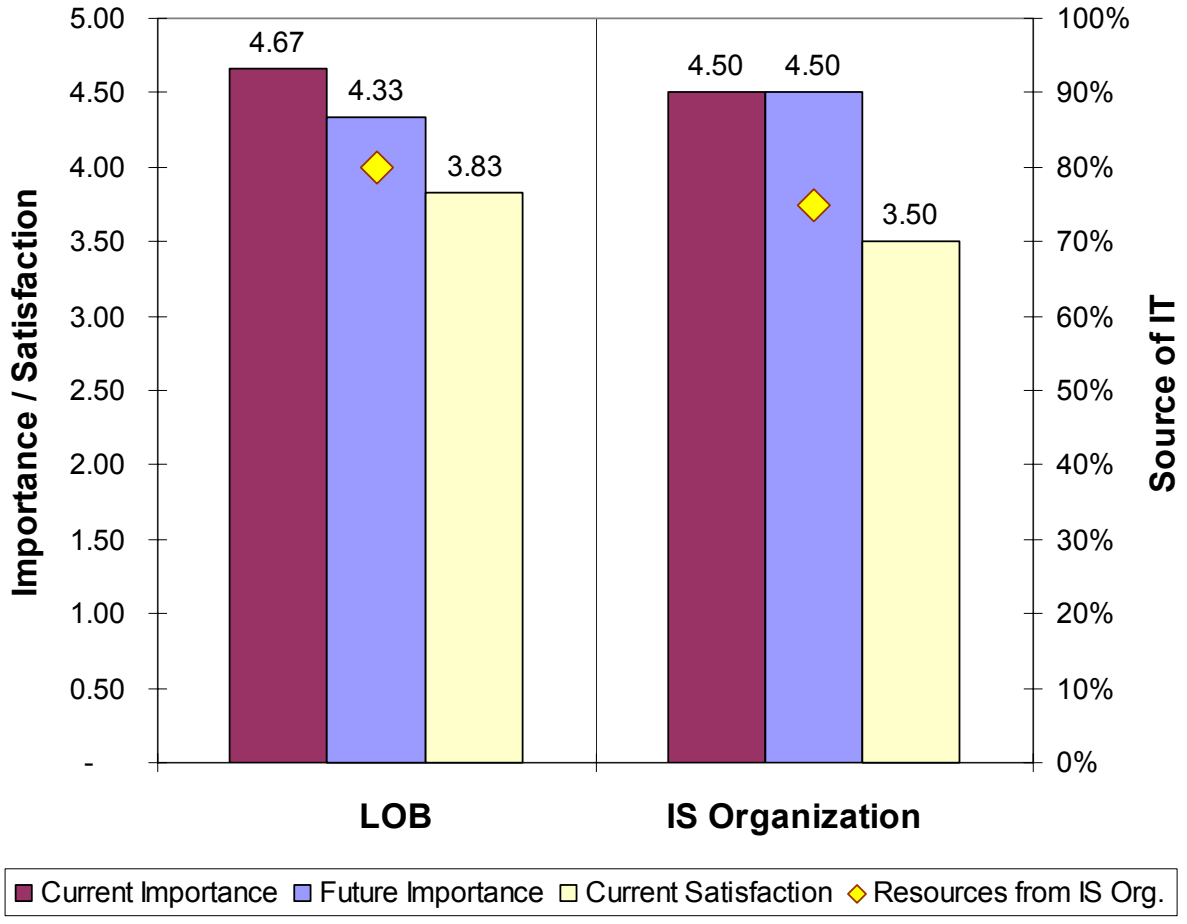
IT/Business Alignment

IT Services - End User Support/Services



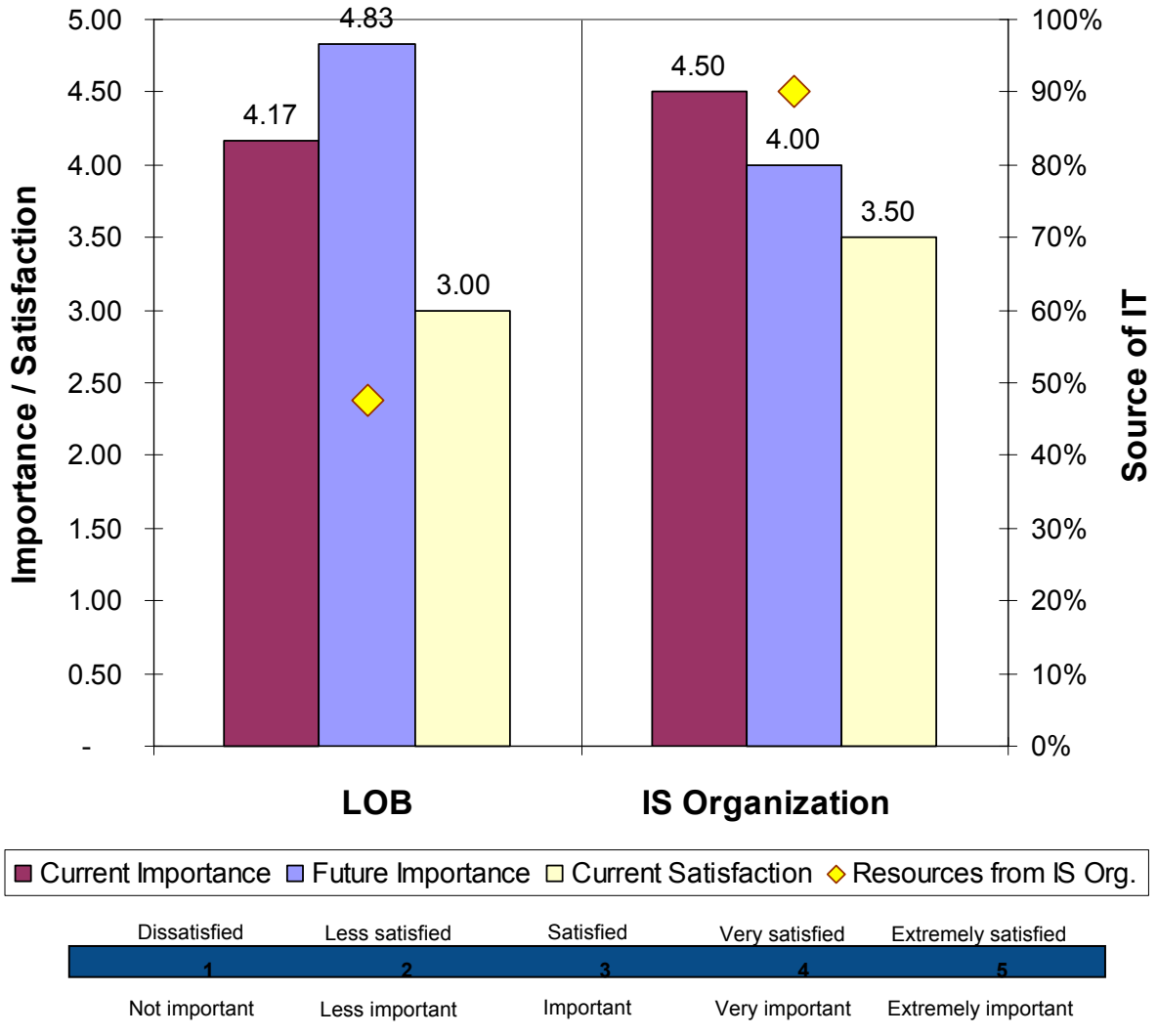
IT/Business Alignment

IT Services - Large Scale Processing



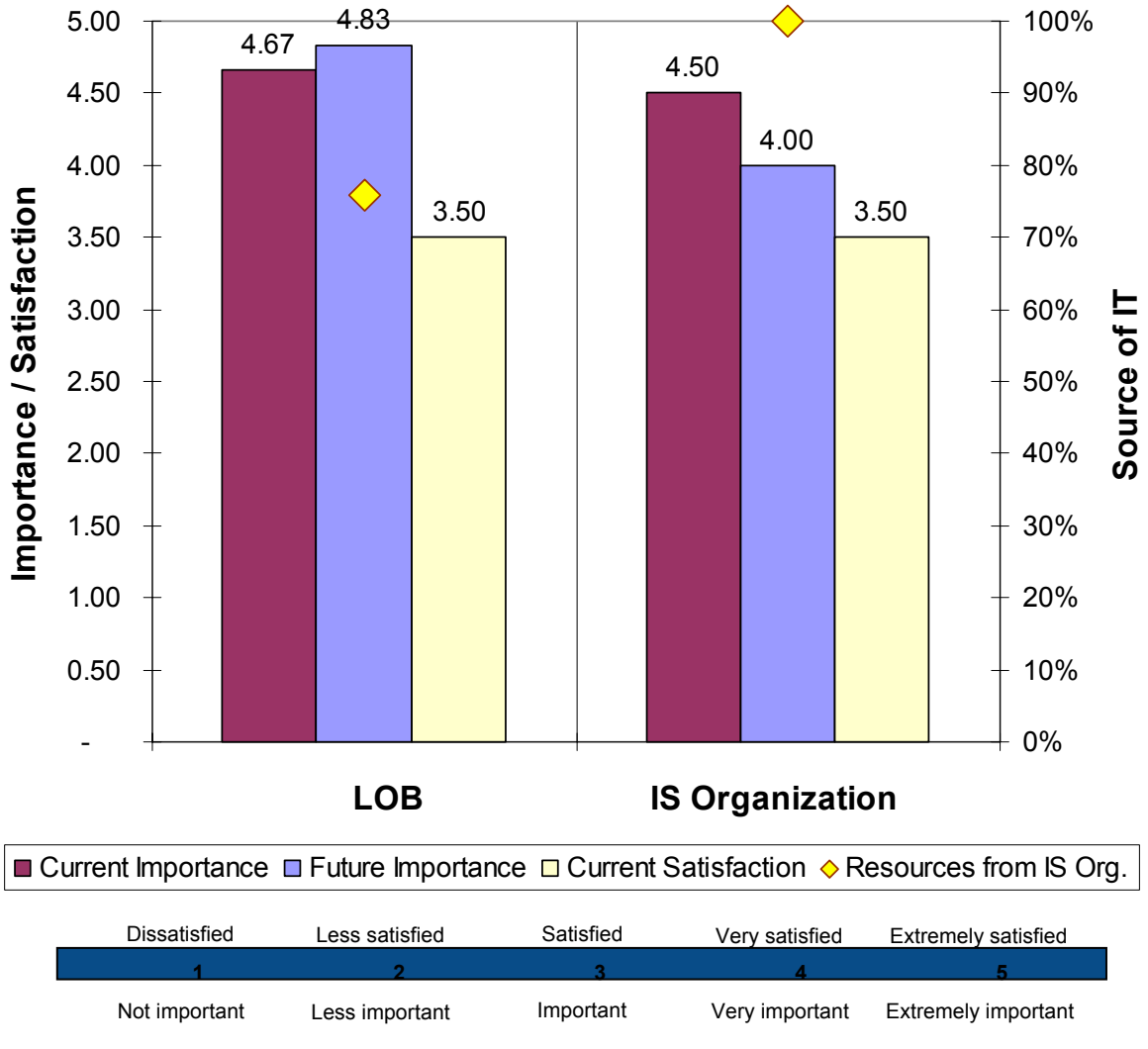
IT/Business Alignment

IT Services - Applications Development



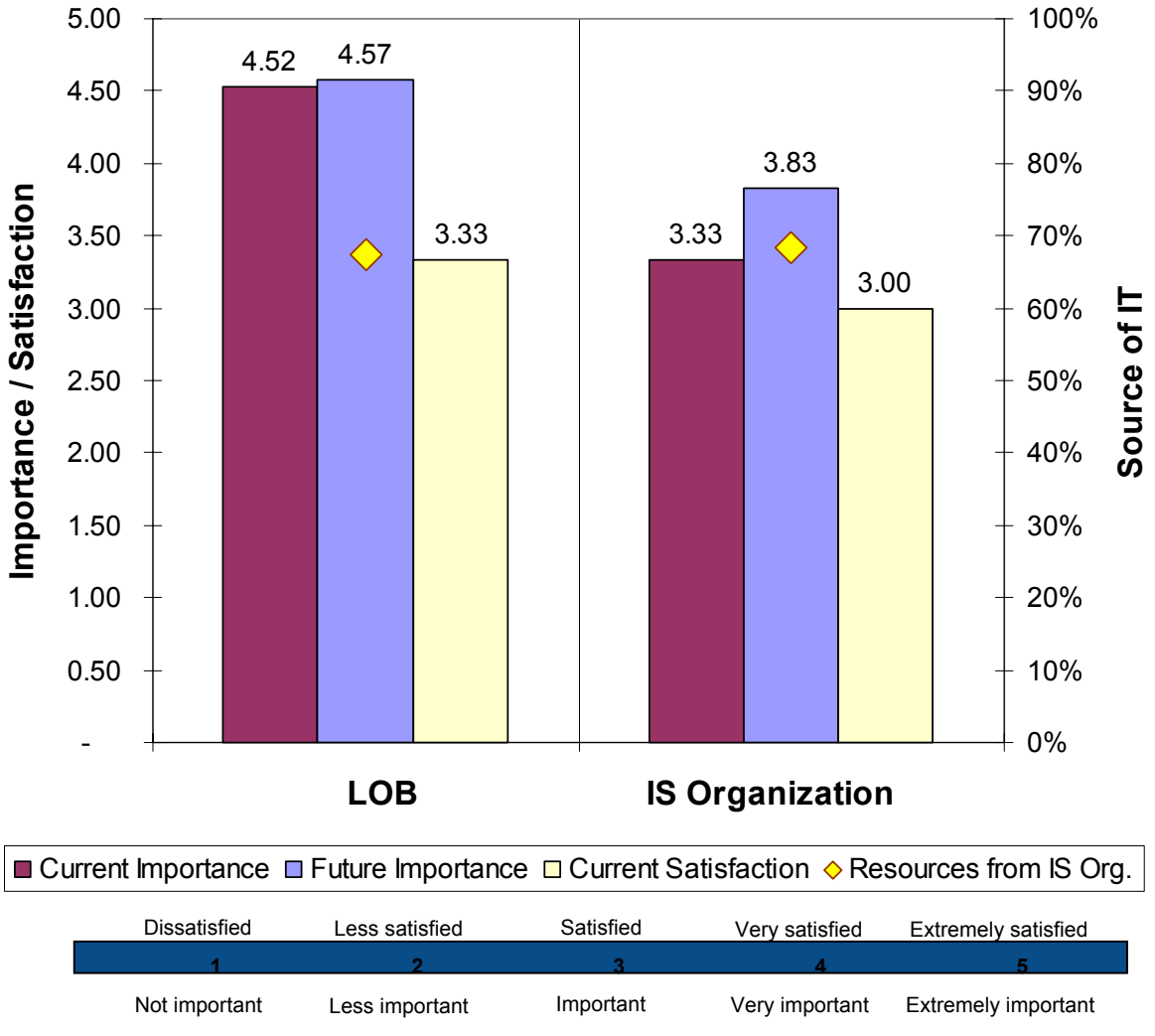
IT/Business Alignment

IT Services - Applications Support



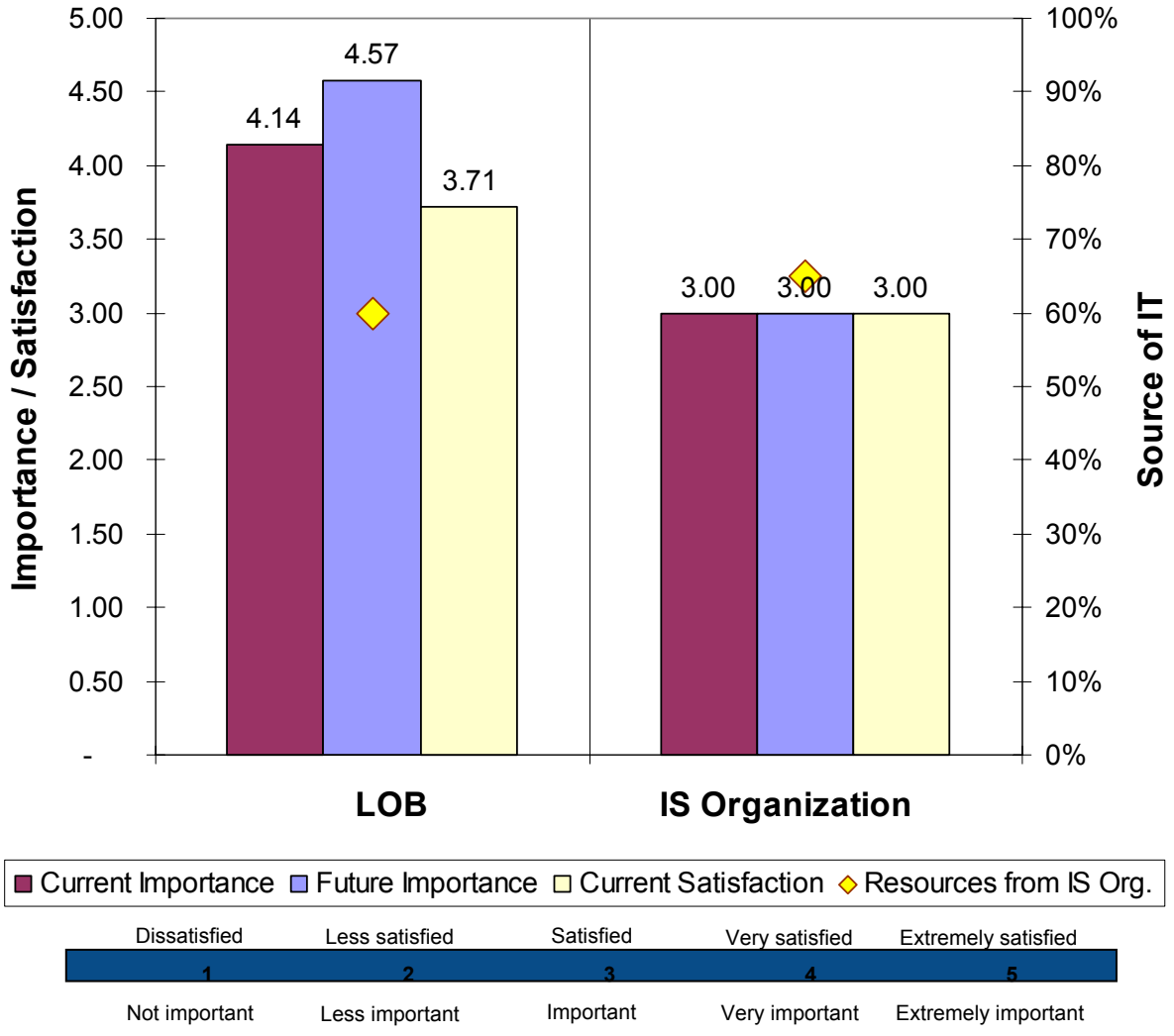
IT/Business Alignment

IT Services - Communications Infrastructure/Services



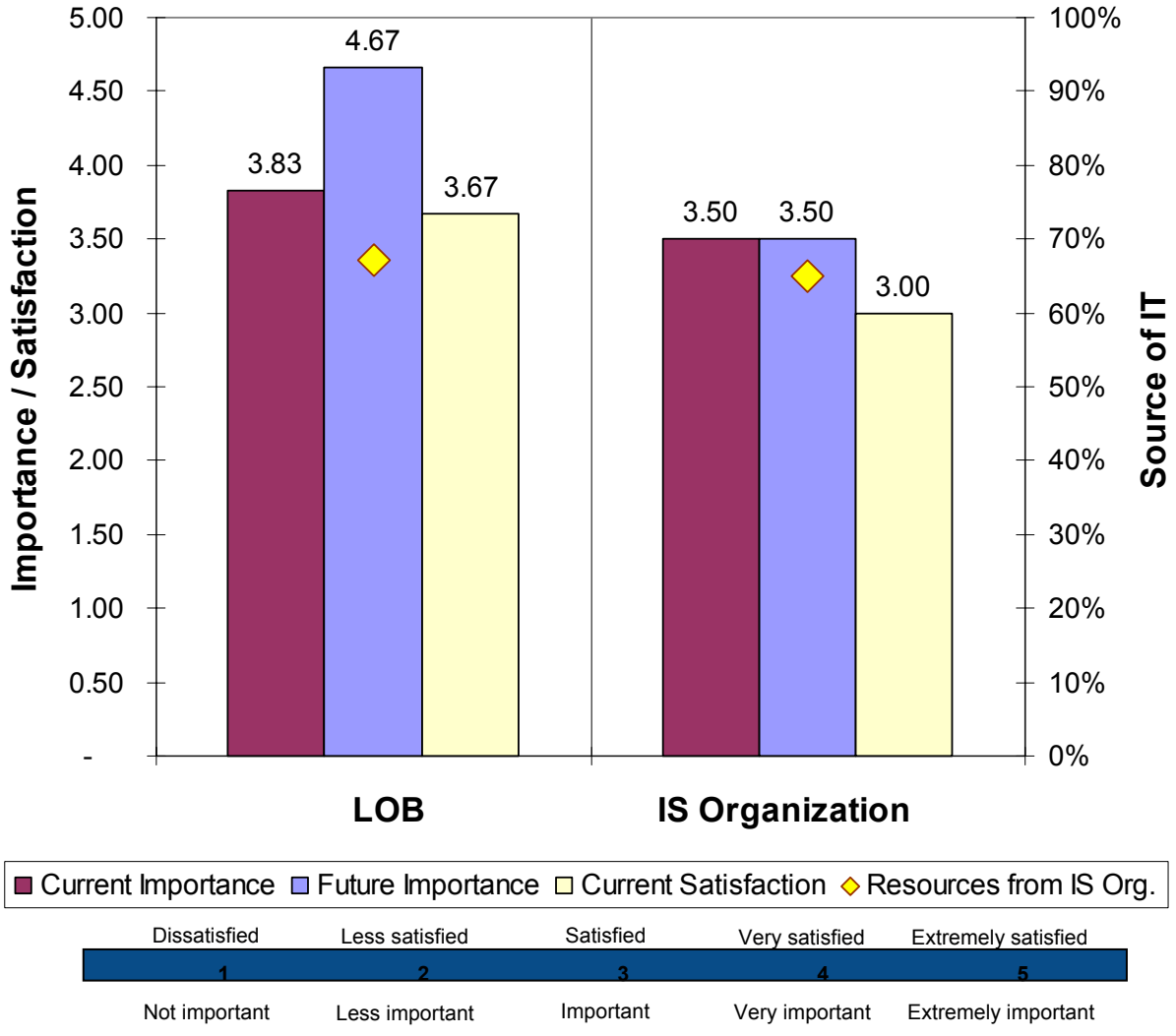
IT/Business Alignment

IT Services - Internet Capability/Access



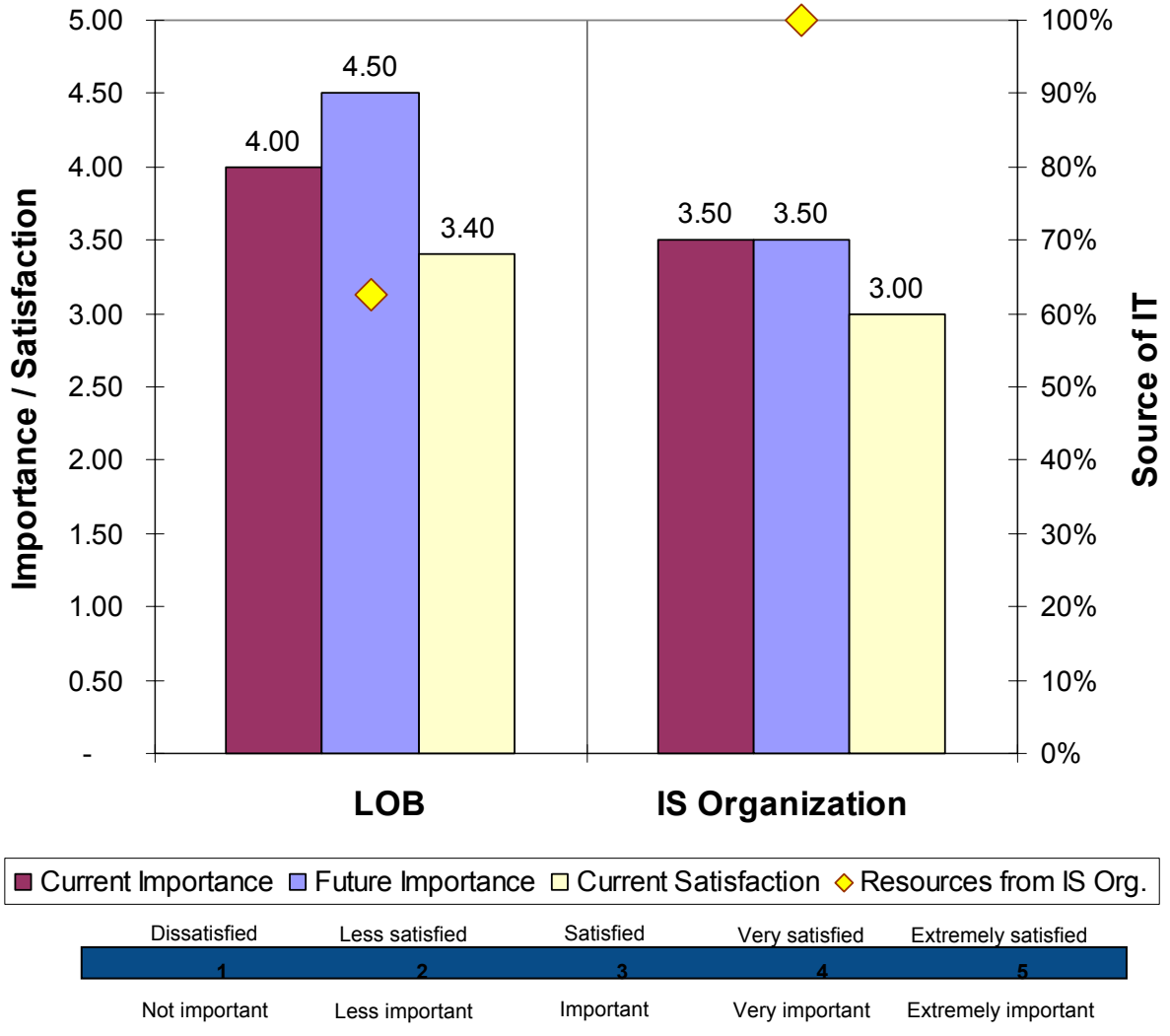
IT/Business Alignment

IT Services - Intranet Services



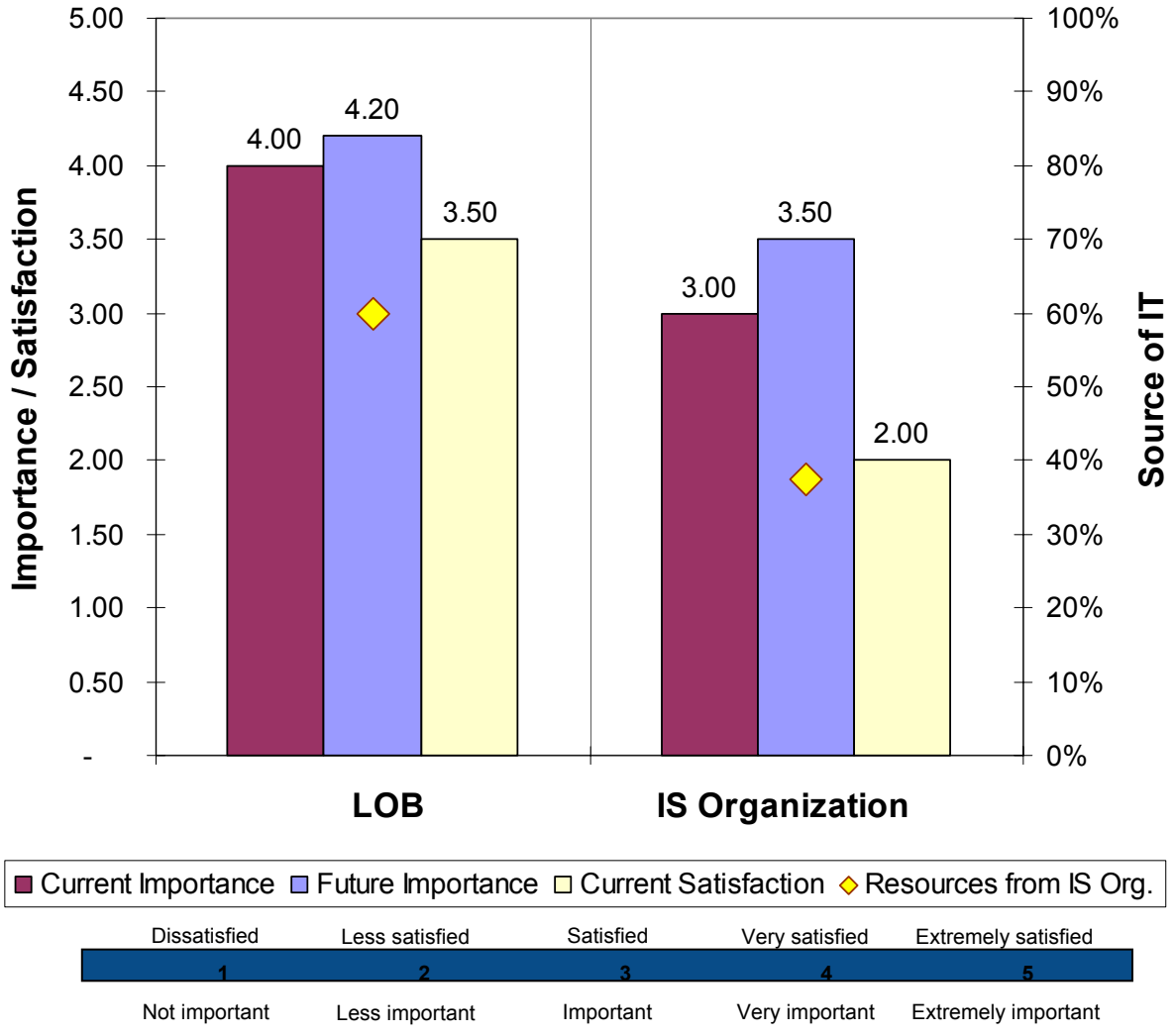
IT/Business Alignment

IT Services - Negotiations/Procurement



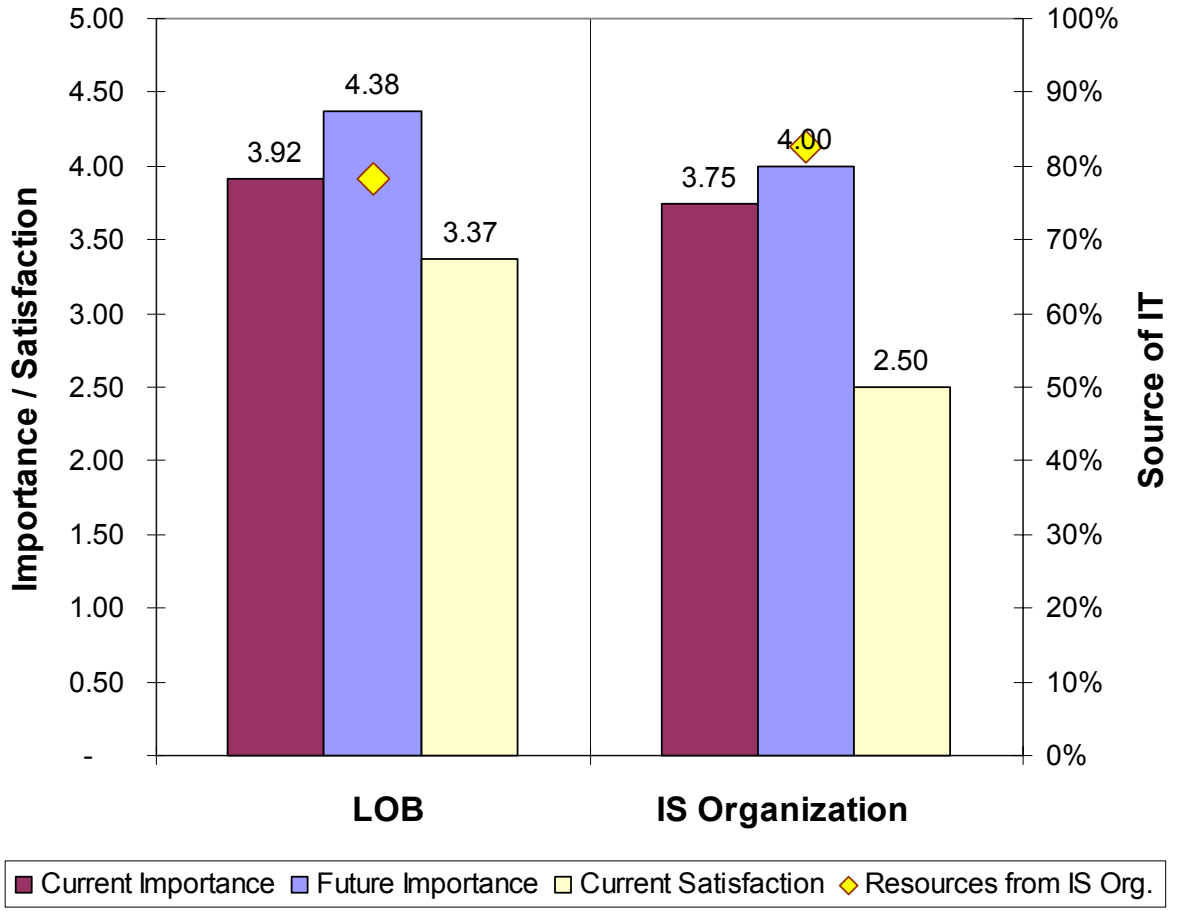
IT/Business Alignment

IT Services - Electronic Links to Customers/Partners



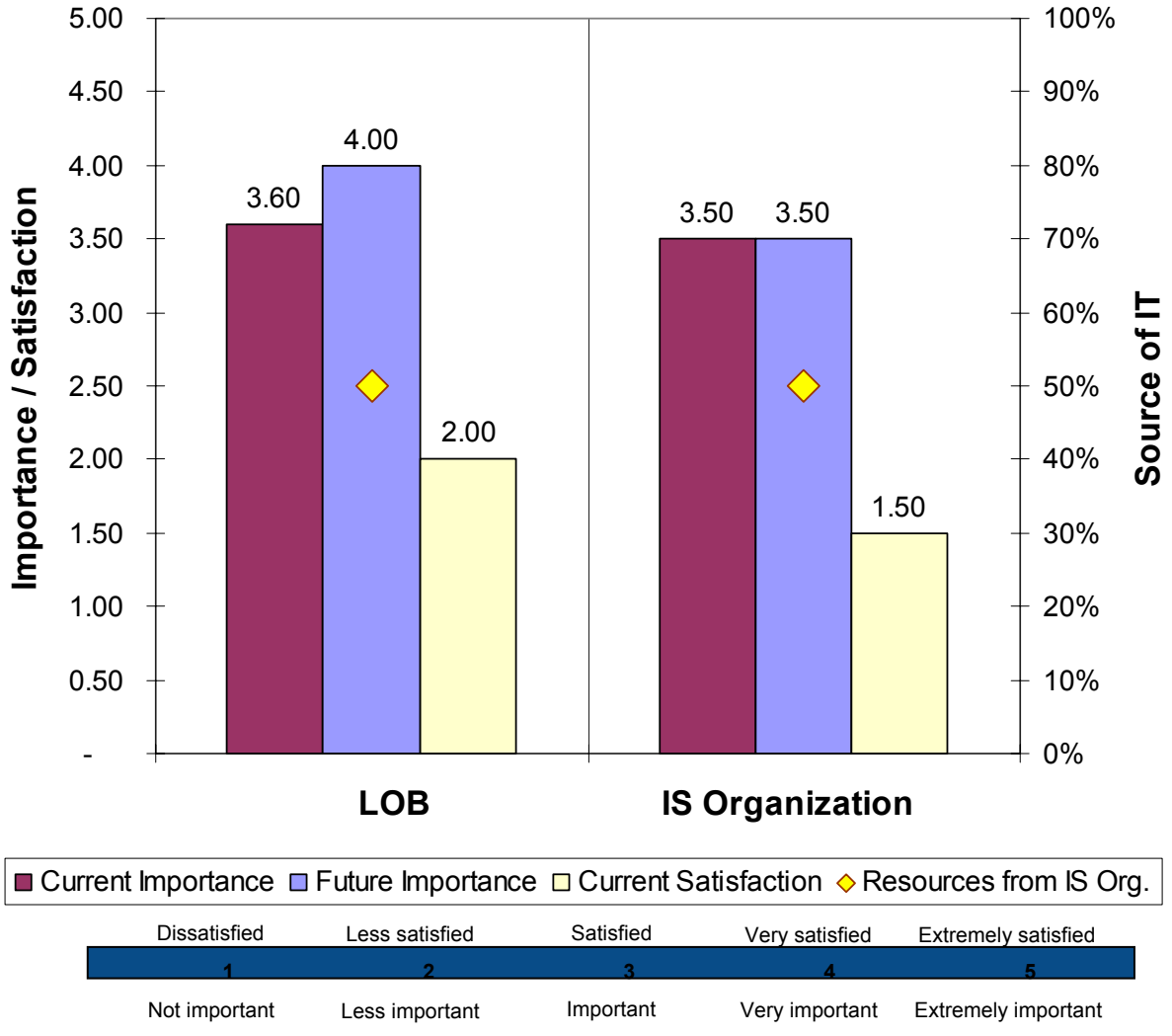
IT/Business Alignment

IT Services - Project/Data Management



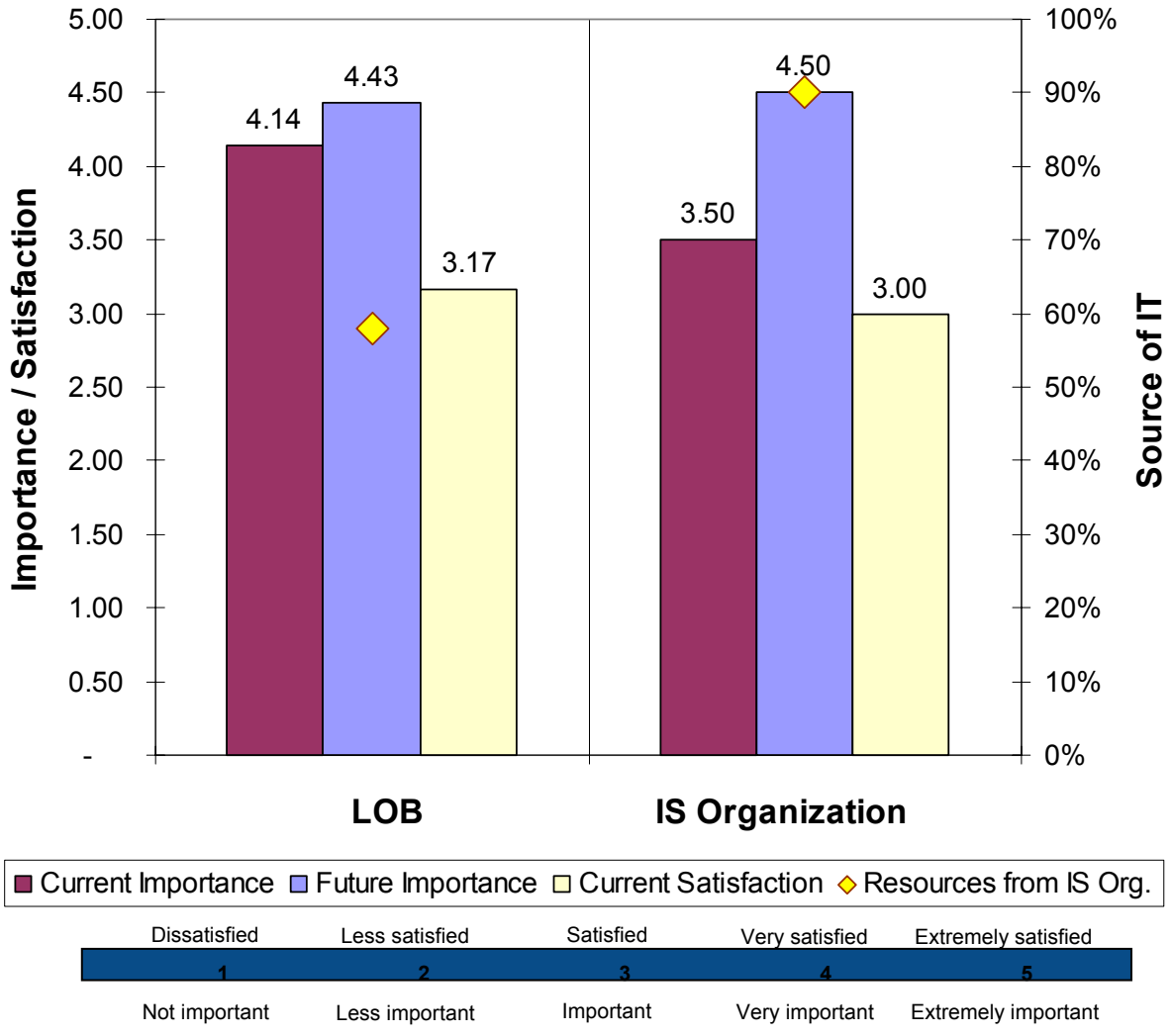
IT/Business Alignment

IT Services - Multi-media Operations & Development



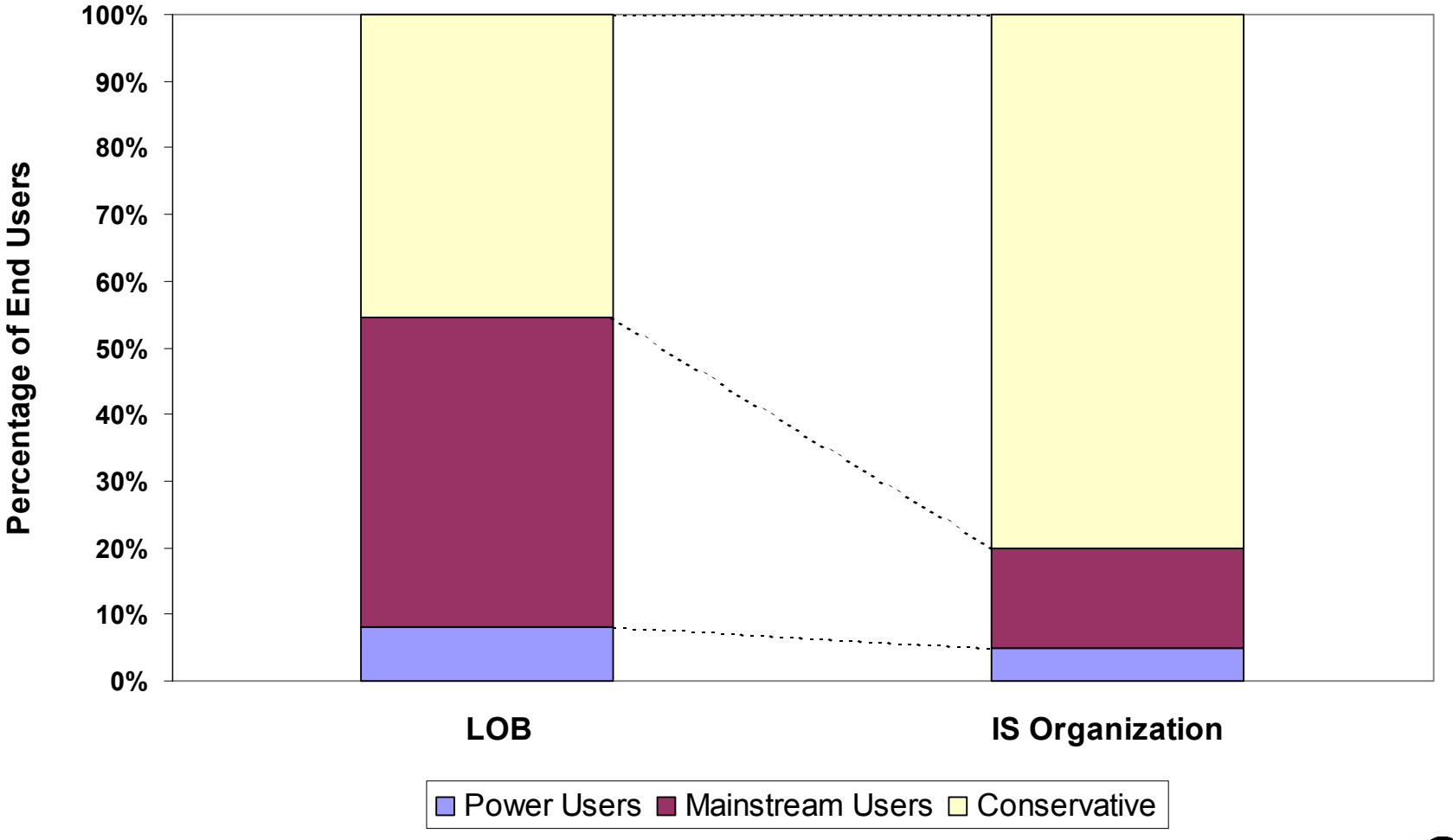
IT/Business Alignment

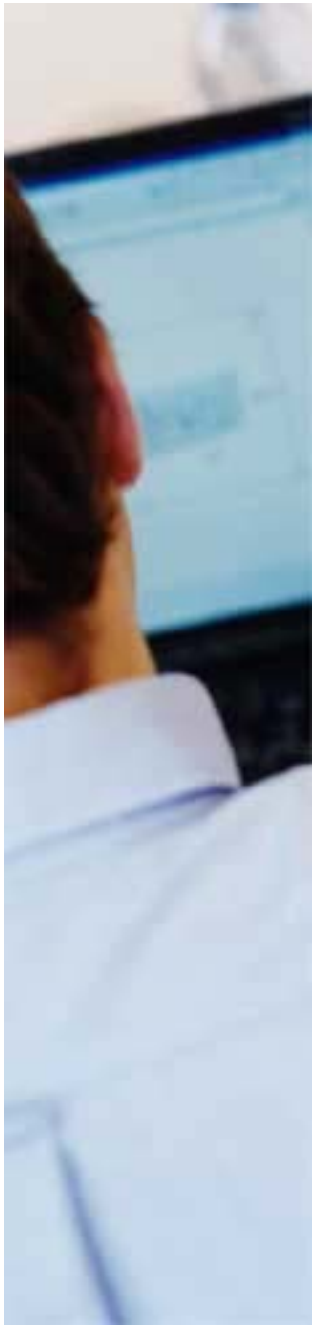
IT Services - Security & Disaster Recovery



IT/Business Alignment

Type of End Users





Appendix B

Cost Component Definitions

Cost Component Definitions

- *Hardware* — This includes hardware from wide-area data, data center, midrange computing, equipment costs from IT help desk, hardware and LAN/shared services costs from distributed computing, hardware and software from voice network and voice technology and a percentage of technology costs from applications development and support.

- *Software* — This includes software costs from wide-area data, data center, midrange computing, distributed computing desktop software, vendor costs from applications development and support, a percentage of applications support and development technology costs and purchased enterprise applications software.

- *Personnel* — This includes all labor costs for each functional area including internal staff and contractors as well as staff managed internally.

Cost Component Definitions

- *Outsourcer* — This includes fee-for-service activity and supplemental staff not managed on a day-to-day basis. Control is given to a third party.
- *Disaster recovery* — This includes contingency planning including hot-site backup and off-site tape storage in the data center and midrange computing environments.
- *Transmission* — This includes circuit costs from voice technology, usage and access costs from network voice, circuit costs from wide-area data and network costs from the IT help desk.
- *Occupancy* — This includes facilities charges (e.g., electricity and office space) from the data center, midrange, IT help desk as well as applications development and support environments.

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